

7.07 AWS

What is Amazon EC2?

- Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) Cloud.
- Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster.
- You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage.
- Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

What is Amazon EC2?

- Virtual computing environments, known as *instances*
- Preconfigured templates for your instances, known as *Amazon Machine Images (AMIs)*, that package the bits you need for your server (including the operating system and additional software)
- Various configurations of CPU, memory, storage, and networking capacity for your instances, known as *instance types*
- Secure login information for your instances using *key pairs* (AWS stores the public key, and you store the private key in a secure place)
- Multiple physical locations for your instances, known as Regions and Availability Zones

Use the free-tier – valid for 1-year



Welcome to Amazon Web Services

For the next 12 months, you'll have free access to core AWS compute, storage, database, and application services within the limits of the [Free Tier](#).

Here are a few easy ways to get started:



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**Start building with the
AWS console**
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**Launch a simple cloud
server**
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☒ **Receive PDF Invoice By Email**

Turn on this feature to receive a PDF version of your invoice by email. Invoices are generally available within the first three days of the month.

☒ **Cost Management Preferences**

☒ **Receive Free Tier Usage Alerts**

Turn on this feature to receive email alerts when your AWS service usage is approaching, or has exceeded, the AWS Free Tier usage limits. If you wish to receive these alerts at an email address that is not the primary email address associated with this account, please specify the email address below.

Email Address:

☒ **Receive Billing Alerts**

Turn on this feature to monitor your AWS usage charges and recurring fees automatically, making it easier to track and manage your spending on AWS. You can set up billing alerts to receive email notifications when your charges reach a specified threshold. Once enabled, this preference cannot be disabled. [Manage Billing Alerts](#) or [try the new budgets feature!](#)

► Detailed Billing Reports [Legacy]

Save preferences

AWS Management Console

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



Connect an IoT device

With AWS IoT

5 minutes



Start migrating to AWS

With AWS MGN

1-2 minutes



Start a development project

With CodeStar

5 minutes



Deploy a serverless microservice

With Lambda, API Gateway

2 minutes



Host a static web app

With AWS Amplify Console

5 minutes



AWS Developer Tools

AWS Developer Tools

Easily develop applications on AWS in the programming language of your choice with familiar tools.

Developer Tool	Description
Web Console	Simple web interface for Amazon Web Services
Command Line Tool	Control your AWS services from the command line and automate service management with scripts
Integrated Development Environment (IDE)	Write, run, debug, and deploy applications on AWS using familiar Integrated Development Environments (IDE)
Software Development Kit (SDK)	Simplify coding with language-specific abstracted APIs for AWS services
Infrastructure as Code	Define cloud infrastructure using familiar programming languages

AWS DeepRacer League

[AWS DeepRacer](#) [Overview](#) [League](#) [Enterprise Events](#) [Racing Tips](#) [Getting Started](#) [Pricing](#) [FAQs](#) [Robotics Projects](#)

AWS DeepRacer League

Welcome to the world's first global autonomous racing league, driven by machine learning. It's time to race for prizes and glory, and a chance to advance to the AWS DeepRacer Championship. Get on the track to compete online in monthly races worldwide while improving your machine learning skills!

[Get rolling](#)

Start racing for prizes and glory

New for 2021 - the AWS DeepRacer League has over **5x more** chances to win prizes than ever before. Developers can participate each month to earn unique rewards and move up the ranks to unlock physical prizes and experiences!



SSH

- SSH, or Secure Shell, is a remote administration protocol that allows users to control and modify their remote servers over the Internet.
- It provides a mechanism for authenticating a remote user, transferring inputs from the client to the host, and relaying the output back to the client.
- If you're using Linux or Mac, then using SSH is very simple. If you use Windows, you will need to utilize an SSH client to open SSH connections. The most popular SSH client is PuTTY.

User-Friendly FTP - FileZilla

- If you want a more user-friendly tool to transfer data, FileZilla is a good choice.
- It is free, it supports Windows/Linux/Mac systems, and it has a good user interface. It supports FTP, SFTP and other file transfer protocols.

Running Jupyter Notebook on an EC2 Server

- Step 1: Create an EC2 Instance
- Step 2: Customize your EC2 server for Jupyter
- Step 3: Connecting to your EC2
- Step 4: Installing Jupyter Notebook
- Step 5: Configuring Jupyter Notebook's Path
- Step 6: Configuring Jupyter Notebook settings
- Step 7: Create a directory for your notebooks
- Step 8: Connecting to your EC2 Jupyter Server

Read more at this [link](#)