

# EC2

2019年2月10日 星期日

上午1:04

## What is Elastic Compute Cloud (EC2)?

EC2

### **Simplified Definition:**

Think of EC2 as your basic desktop computer.

### **AWS Definition:**

"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."



**AWS EC2**



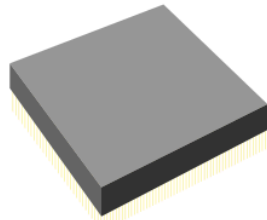
## EC2 Basics (components):



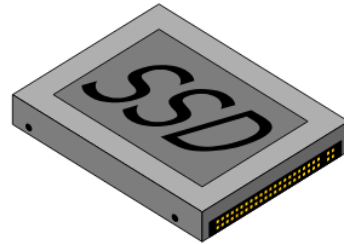
Basic Computer  
Components



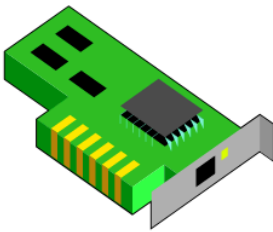
Operating System  
(Linux or  
Windows)



CPU  
(Processing  
Power)



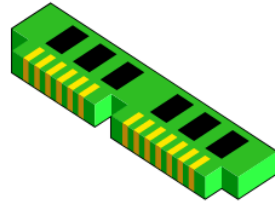
Hard Drive  
(Local Storage)



Network Card  
(Internet Access)



Firewall  
(Security)



RAM

## EC2 Basics (components):

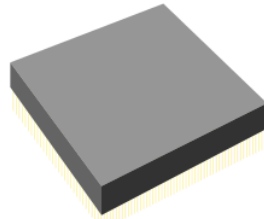


## EC2 Instance Components

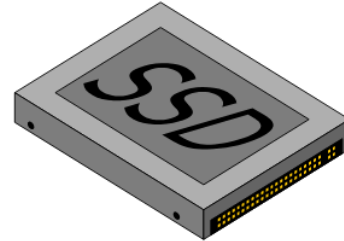
**NOTE: This is an overly-simplified comparison.**



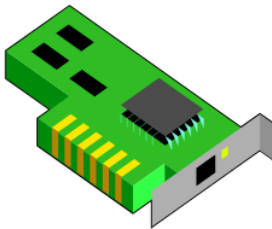
**AMIs**  
(Linux or  
Windows)



**Instance Type**  
(Processing  
Power)



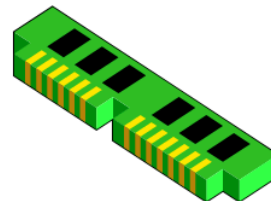
**EBS**  
(Local Storage)



**IP Addressing**  
(Internet Access)



**Security Groups**  
(Security)



**RAM**

## **EC2 Basics (components):**

### **AMI Options:**

AMIs come in three main categories:

#### **(1) Community AMIs:**

-Free to use

-Generally, with these AMIs you are just selecting the OS you want.

## (2) AWS Marketplace AMIs:

-Pay to use

-Generally comes packaged with additional, licensed software.

## (3) My AMIs:

-AMIs that you create yourself

## Instance Type Options:

(1) General purpose

(2) Compute optimized

(3) GPU optimized

(4) Memory optimized

(5) Storage optimized

### Step 1: Choose an Amazon Machine Image (AMI)

Community AMIs

☐ Free tier only ⓘ

Free tier eligible

software packages through extras.

Root device type: ebs    Virtualization type: hvm    ENA Enabled: Yes

Amazon Linux

Free tier eligible

Amazon Linux AMI 2018.03.0 (HVM), SSD Volume Type - ami-0080e4c5bc078760e

The Amazon Linux AMI is an EBS-backed, AWS-supported image. The default image includes AWS command line tools, Python, Ruby, Perl, and Java. The repositories include Docker, PHP, MySQL, PostgreSQL, and other packages.

Root device type: ebs    Virtualization type: hvm    ENA Enabled: Yes

SUSE Linux

Free tier eligible

SUSE Linux Enterprise Server 15 (HVM), SSD Volume Type - ami-06ea7729e394412c8

SUSE Linux Enterprise Server 15 (HVM), EBS General Purpose (SSD) Volume Type. Public Cloud, Advanced Systems Management, Web and Scripting, and Legacy modules enabled.

Root device type: ebs    Virtualization type: hvm    ENA Enabled: Yes

Red Hat

Free tier eligible

Red Hat Enterprise Linux 7.6 (HVM), SSD Volume Type - ami-011b3ccf1bd6db744 (64-bit x86) / ami-0e3688b4a755ad736 (64-bit Arm)

Red Hat Enterprise Linux version 7.6 (HVM), EBS General Purpose (SSD) Volume Type

Root device type: ebs    Virtualization type: hvm    ENA Enabled: Yes

Ubuntu

Free tier eligible

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0ac019f4cb7cb7e6 (64-bit x86) / ami-01ac7d9c1179d7b74 (64-bit Arm)

Ubuntu Server 18.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).

Root device type: ebs    Virtualization type: hvm    ENA Enabled: Yes

Amazon RDS

Are you launching a database instance? Try Amazon RDS.

Amazon Relational Database Service (RDS) makes it easy to set up, operate, and scale your database on AWS by automating time-consuming database management tasks. With RDS, you can easily deploy [Amazon Aurora](#), [MariaDB](#), [MySQL](#), [Oracle](#), [PostgreSQL](#), and [SQL Server](#) databases on AWS. [Aurora](#) is a MySQL- and PostgreSQL-compatible, enterprise-class database at 1/10th the cost of commercial databases. [Learn more about RDS](#)

[Launch a database using RDS](#)

Cancel and Exit

☐ 64-bit (Arm)

Select

64-bit (x86)

Select

64-bit (x86)

Select

☒ 64-bit (x86)  
☐ 64-bit (Arm)

Select

☒ 64-bit (x86)  
☐ 64-bit (Arm)

### Step 1: Choose an Amazon Machine Image (AMI)

🔍 Search for an AMI by entering a search term e.g. "Windows"

Quick Start

My AMIs

**AWS Marketplace**

Community AMIs

Categories

All Categories

Infrastructure Software (2563)

Developer Tools (571)

Business Software (1059)

Find and buy software that runs in the AWS Cloud, software from trusted vendors like SAP, Zend, Microsoft, as well as n Marketplace AMI products. View Marketplace products you are currently subscribed to by visiting [Your Software](#) in the

**Featured Software**

 <b>Barracuda CloudGen Firewall for AWS - ...</b> Rating ★★★★★ By Barracuda Networks, Inc. Starting from \$0.60/hr or from \$4,599/yr (12% savings) for software	 <b>vSRX Next Generation Firewall</b> By Juniper Networks \$0.55/hr or \$2,280/yr (53% savings) for software	 <b>Matillion ETL for Amazon Redshift</b> Rating ★★★★★ By Matillion Starting from \$1.37/hr or from \$9,950/yr (17% savings) for software	 <b>Trend Micro Deep Security</b> Rating ★★★★★ By Trend Micro Starting from \$0.01 per host/hr for software usage
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**Popular Software**

F5 BIG-IP Virtual	CentOS 7.2 LAMP	SoftNAS Cloud	F5 BIG-IP Virtual
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## EC2 Basics (buying options)

### On-Demand:

On-demand purchasing allows you to choose any **instance type** you like and provision/terminate it at any time (on-demand).

- (1) Is the **most expensive** purchasing option.
- (2) Is the **most flexible** purchasing option.
- (3) You are only charged when the instance is **running** (and billed by the second).
- (4) You can provision/terminate an on-demand instance at any time.

### Reserved:

*cheap*

Reserved purchasing allows you to purchase an instance for a **set time period** of one (1) or three (3) years.

- (1) This allows for a **significant price discount** over using on-demand.
- (2) You can select to pay upfront, partial upfront, no upfront.
- (3) Once you buy a reserved instance, you own it for the selected time period and are **responsible for the entire price** - regardless of how often you use it.

### Spot:

*Even x use, still pay*

Spot pricing is a way for you to **"bid"** on an instance type and only pay for and use that instance when the spot price is **equal to or below** your "bid" price.

- (1) This option allows Amazon to sell the use of **unused instances**, for short amounts of time, at a **substantial discount**.

- (2) ***Spot prices fluctuate*** based on supply and demand in the spot marketplace.
- (3) You are ***charged by the second (but bid pricing based on and hourly rate)***
- (4) When you have an active bid, an instance is ***provisioned for you when the spot price is equal to or less than you bid price.***
- (5) Provisioned instances ***automatically terminate when the spot price is greater than your bid price.***

Full list of Instance Purchasing Options:

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