



Cloud_nLoud

(C)LOUD YOUR DREAMS

Elastic Compute

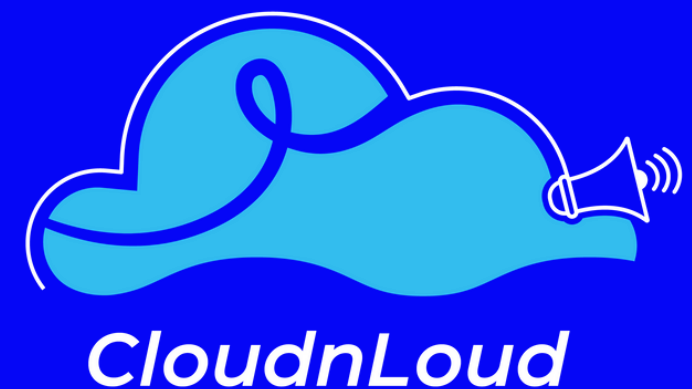
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EC2 Instance Type

Understanding the needs

Instance Family

Type	Family	Use Cases
t2	General Purpose	DEV environments.
M3, M4	General Purpose	Application servers.
C3, C4 series	Compute Optimized	CPU Intensive Apps / DB's
D3	Storage Optimized	File Servers, Data Warehousing, Hadoop.
i2	Storage Optimized	High Speed storage [data warehouse, DB
G2	Graphic Optimized	Video Encoding, 3D rendering
R3 , R4	Memory Optimized	Memory Intensive applications
X1	Memory Optimized	Super Memory Intensive applications

Easy Way to Remember



- C for Compute
- D for Density
- G for Graphics
- I for IOPS
- M for main choice for General purpose
- R for RAM
- T for Cheap General Purpose



EC2 Pricing

The backbone of internet

There are 4 way to pay for an EC2 instance :

- On-Demand Instance
- Reserved Instance
- Spot Instances
- Dedicated Hosts





On-Demand Instance

With On-demand instances, we pay for compute capacity per hour or per second depending on the instances which is being run.

No upfronts payments are needed and we can increase or decrease the capacity whenever it is needed.

Challenges with On-Demand

Monday: 500 customers using 16GB RAM on-demand servers individually.

Wednesday: 10 customers using 16GB RAM on-demand servers individually.

A “Cloud Service Provider” will not have a clear picture on how many servers should the provision. Too high → resources might unused and too low → money loss



Reserved Instance

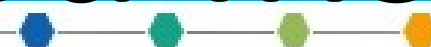
Reserved Instance provides us with significant discount (up to 70%) compared to on-demand instance pricing:

Reserved instance are assigned to a specific availability zone and provides capacity reservation for AWS EC2 instances.

Example:

You know you will always be running 20 servers of m4.2xlarge type, then buy reserved instances for them.

Reserved Instance



Pricing Option	Hourly Cost	Total 3 year cost ¹
On-Demand Instance	\$0.4	$\$0.4 \times 26280 = 10,500\$$
3 year all up-front - Reserved	\$0.17	\$4200
Savings		~65%



SPOT Instance



Spot Instances allows us to bind on spare Amazon EC2 computing capacity for up to 90% of the on-demand cost.

Such instances are recommended for applications which can have flexible start and end times.

Example:

You know you will always be running 20 servers of m4.large then buy reserved instances for them.

SPOT Instance

Suppose AMAZON is having 400 CPU and customers are using only 280 CPU's.

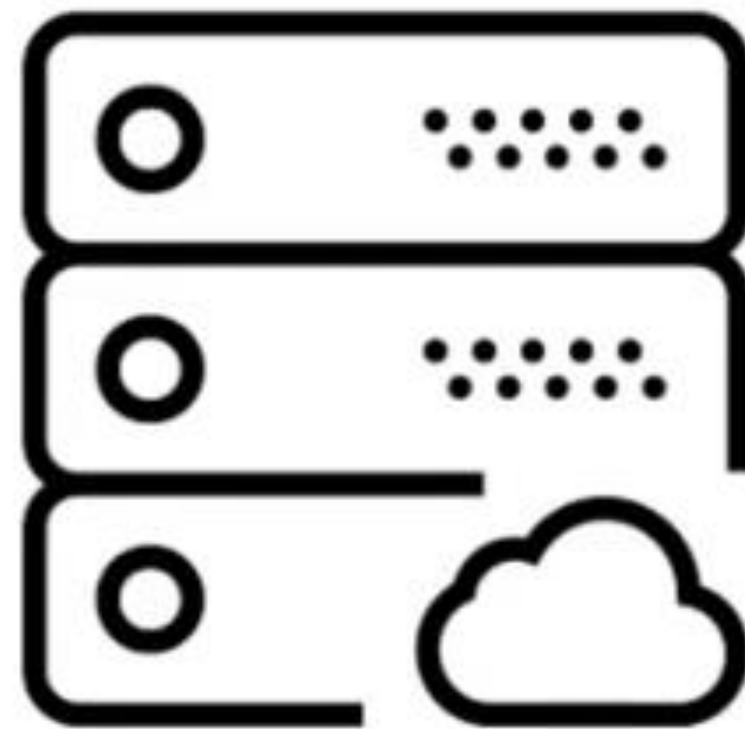
Remaining 120 CPU are really waste and no business out of it. So what is AWS is offering (Tempting to customers) to use it for very less price.



Dedicated Host

A dedicated host is a physical EC2 server dedicated for your use.

It can be purchased on-demand as well as reserved instance.



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Fail More

Learn More

Grow More

Help Cancer Children



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