


EC2:



Elastic Compute Cloud (EC2)




Secure, resizable compute capacity in the cloud.

Like a VM, only hosted in AWS instead of your own data center.

Designed to make web-scale cloud computing easier for developers.

The capacity you want when you need it.

You are in complete control of your own instances.



Game Changer


AWS led a big change in the industry by introducing EC2.

Pay Only for What You Use

EC2 changed the economics of computing.


No Wasted Capacity

Select the capacity you need right now. Grow and shrink when you need.




On-Demand

Pay by the hour or the second, depending on the type of instance you run.




Reserved

Reserved capacity for 1 or 3 years. Up to 72% discount on the hourly charge.



Spot

Purchase unused capacity at a discount of up to 90%. Prices fluctuate with supply and demand.



Dedicated

A physical EC2 server dedicated for your use. The most expensive option.

On-Demand Instances

1

Flexible

Low cost and flexibility of Amazon EC2 without any upfront payment or long-term commitment.

2

Short-Term

Applications with short-term, spiky, or unpredictable workloads that cannot be interrupted.

3

Testing the Water

Applications being developed or tested on Amazon EC2 for the first time.

Reserved Instances



Predictable Usage

Applications with steady state or predictable usage.



Standard RIs

Up to 72% off the on-demand price.



Specific Capacity Requirements

Applications that require reserved capacity.



Convertible RIs

Up to 54% off the on-demand price. Has the option to change to a different RI type of equal or greater value.



Pay up Front

You can make upfront payments to reduce the total computing costs even further.



Scheduled RIs

Launch within the time window you define. Match your capacity reservation to a predictable recurring schedule that only requires a fraction of a day, week, or month.

Savings Plans with Reserved Instances

1

Save up to 72%

All AWS compute usage, regardless of instance type or Region.

2

Commit to 1 or 3 Years

Commit to use a specific amount of compute power (measured by the hour) for a 1-year or 3-year period.

3

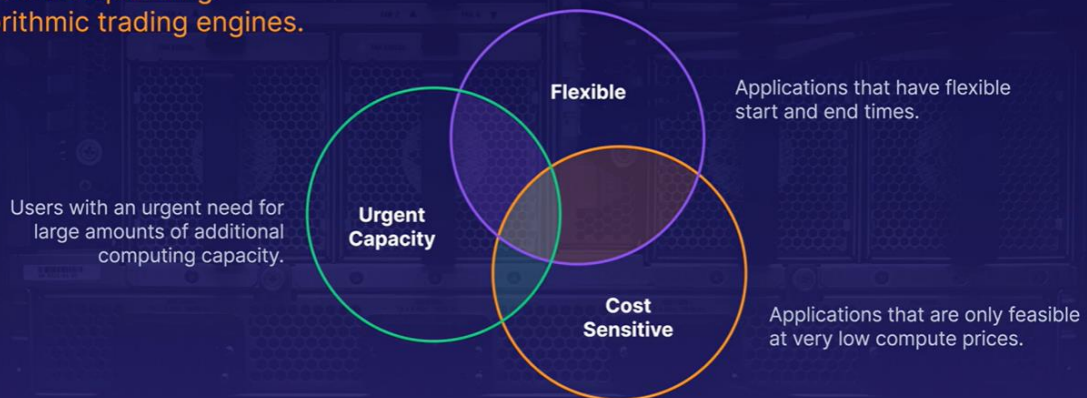
Super Flexible

Not only EC2, this also includes serverless technologies like Lambda and Fargate.



When to Use Spot Instances

Image rendering.
Genomic sequencing.
Algorithmic trading engines.



Dedicated Hosts



Compliance

Regulatory requirements that may not support multi-tenant virtualization.



On-Demand

Can be purchased on-demand (hourly).



Licensing

Great for licensing that does not support multi-tenancy or cloud deployments.



Reserved

Can be purchased as a reservation for up to 70% off the on-demand price.



EXAM TIPS

EC2 is like a VM, hosted in AWS instead of your own data center.

Select the capacity you need **right now**.
Grow and shrink when you need.
Pay for what you use.
Wait minutes, not months.

Exam Tips

EC2 Instance Pricing Options



On-Demand

Pay by the hour or the second, depending on the type of instance you run. Great for flexibility.



Spot

Purchase unused capacity at a discount of up to 90%. Prices fluctuate with supply and demand. Great for applications with flexible start and end times.



Reserved

Reserved capacity for 1 or 3 years. Up to 72% discount on the hourly charge. Great if you have known, fixed requirements.



Dedicated

A physical EC2 server dedicated for your use. Great if you have server-bound licenses to reuse or compliance requirements.

AWS Command Line:

AWS Command Line

You can also **interact with AWS** using the Command Line.

```
aws s3 ls
```

The AWS command line allows you to **interact with AWS simply by typing commands**. In this example we will list all our buckets in S3.

AWS CLI Exam Tips



Least Privilege

Always give your users the **minimum amount** of access required to do their job.



Use Groups

Create IAM groups and assign your users to groups. Group permissions are assigned using IAM policy documents. Your users will **automatically inherit** the permissions of the group.

3 AWS CLI Exam Tips

1

Secret Access Key

You will only see this once! If you lose it, you can delete the access key ID and secret access key and regenerate them. You will need to run **aws configure** again.

2

Don't Share Key Pairs

Each developer should have their own access key ID and secret access key. Just like passwords, they should not be shared.

3

Supports Linux, Windows, MacOS

You can install the CLI on your Mac, Linux, or Windows PC. You can also use it on EC2 instances.