**EC2 Purchasing Options**

1. **Spot Instances :**

A Spot Instance is an instance that uses spare EC2 capacity that is available for less than the On-Demand price.

* Spot pricing is a way for you to **bid** on an instance type and only pay for use that instance when the **spot price is equal to or below your bid price**
* This option allows Amazon to **sell the use of unused instances** for short amounts of time at a substantial discount.
* Spot prices fluctuate based on supply and demand in the spot marketplace.
* You are charged per second (with conditions)
* When you have an active bid, an instance is provisioned for you when the spot price is equal to or less than your bid price
* A provisioned instances automatically terminate when the spot price is greater than your bid price
* Bid on unused EC2 instances for non-production applications.

1. **On-demand instances :**

* On-demand purchasing lets you to choose any instance type and provision/terminate it at any time
* It’s the most **expensive** purchasing option
* It’s the most **flexible** purchasing option
* You are only charged when the instance is running and billed by the second

1. **Reserved Instances:**

* Reserved purchasing allows you to purchase an instance for a **set time period of one or three years**
* This allows for a significant price discount over using on-demand
* You can select to pay **upfront, partial upfront or none upfront**
* Once you buy a reserved instance, you own it for the selected time period and are responsible for the entire price regardless of how you often use it
* Purchases of AZ-specific RIs provide capacity reservation in that AZ. Regional RI purchases do not

So it is theoretically possible AWS will run out of capacity.

1. **Dedicated Hosts :**

A **dedicated physically machine** that you have full control over. This can help save money on license fees and meet certain regulatory compliances.

1. **Scheduled Instances:**

With Scheduled Reserved Instances, you can **reserve capacity** that is scheduled **to recur daily, weekly, or monthly**, with a specified start time and duration, **for a one-year term**. After you complete your purchase, the instances are available to launch during the time windows that you specified.

1. **Capacity Reservation:**

* On-Demand Capacity Reservations enable you to reserve compute capacity for your Amazon EC2 instances in a **specific Availability Zone for any duration**.
* This gives you the ability to create and manage Capacity Reservations independently from the billing discounts offered by Savings Plans or Regional Reserved Instances.
* Capacity Reservations **can only be used by instances that match their attributes**. By default, they are automatically used by running instances that match the attributes.
* By creating Capacity Reservations, you ensure that you always have access to EC2 capacity when you need it, for as long as you need it.
* You can create Capacity Reservations at any time, without entering into a one-year or three-year term commitment, and the capacity is available immediately.