



# AWS Foundation

Compute - EC2 Part I



# Agenda



1

**Pre-EC2 – Virtual Machine**

2

**Pre-EC2 – Intel Processor  
Generation**

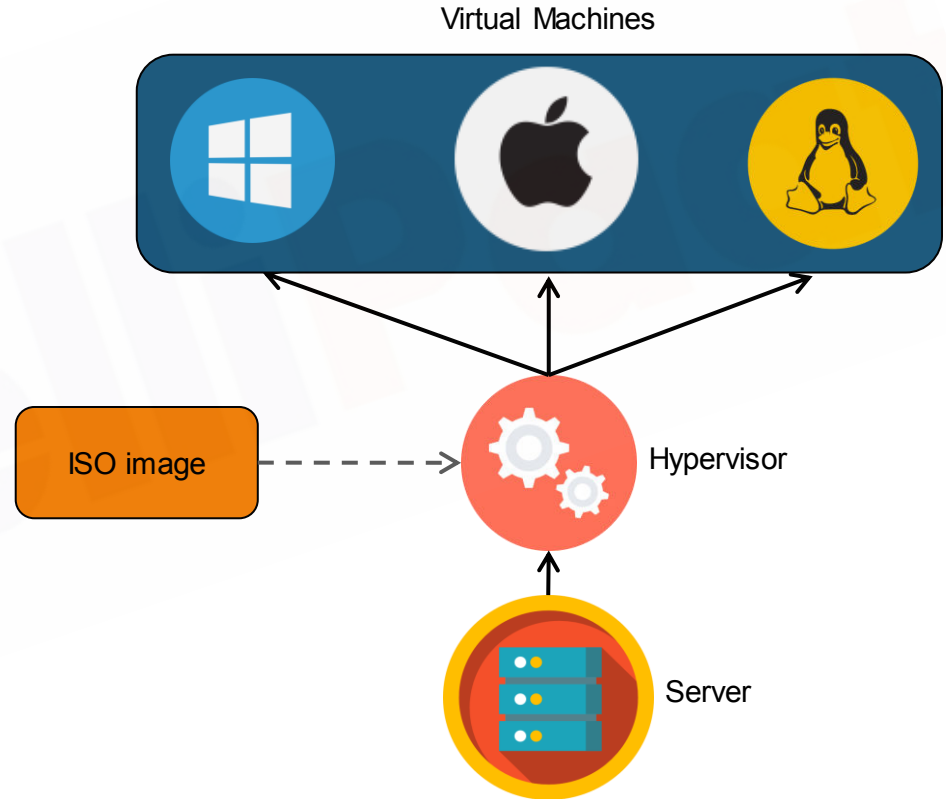
3

**EC2 – Regions and Availability Zones**

# Pre-EC2

## Virtual Machine

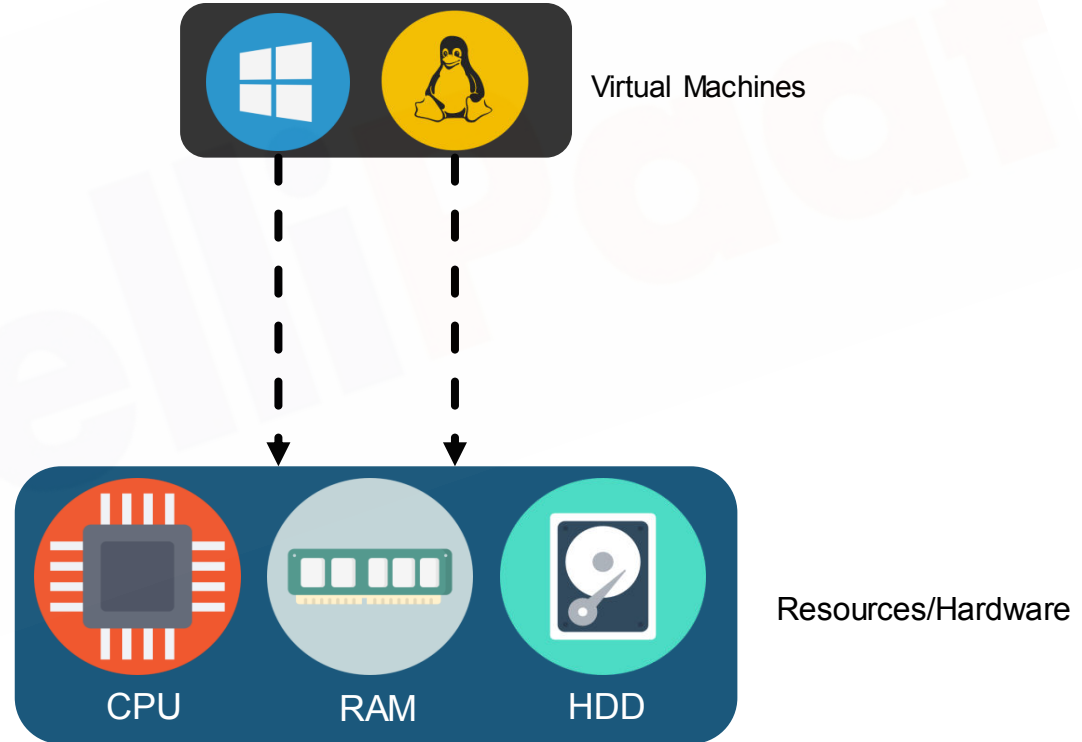
Virtual machine is an emulation of a computer system having OS, RAM, CPU or compute capacity. It provides the exact same functionality as that of an actual computer system.



# Pre-EC2

## Virtual Machine

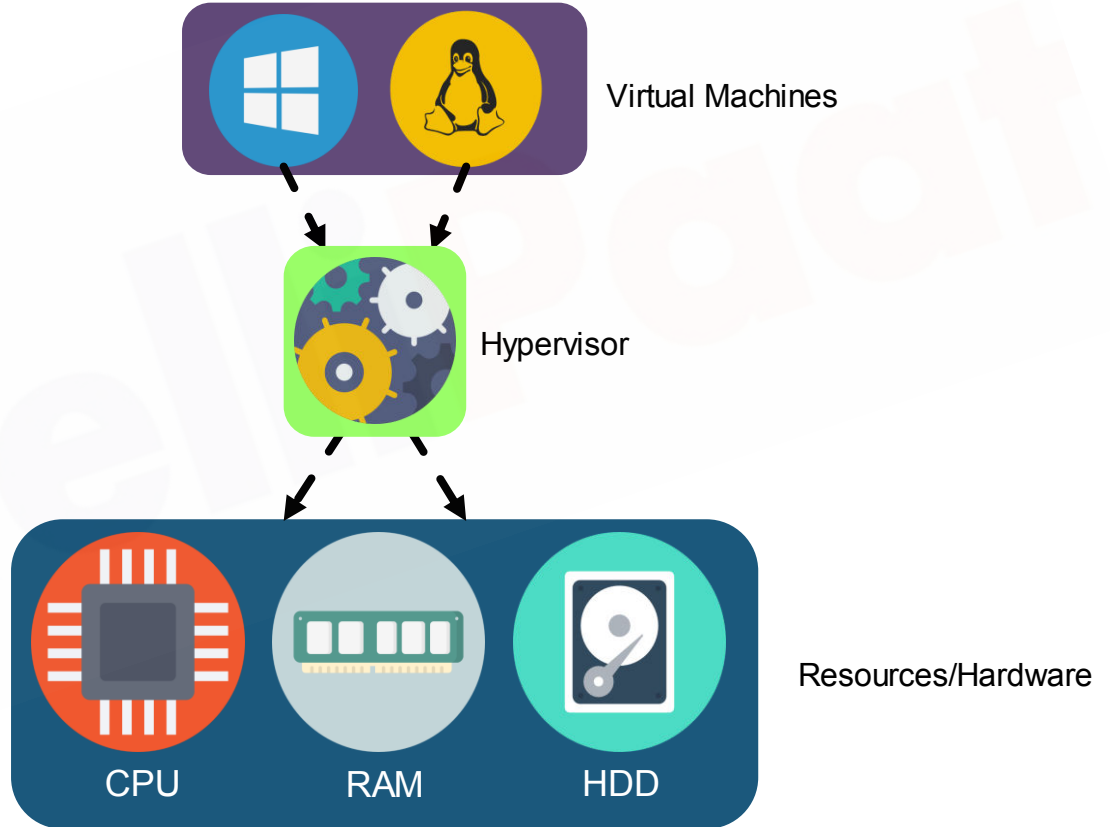
How does virtual machine work?



# Pre-EC2

## Virtual Machine

How does virtual machine work?



# Pre-EC2

## Intel Processor Generation

1<sup>st</sup> Generation Nehalem (2006) –  
Introduced hyper-threading.

2<sup>nd</sup> Generation Sandy Bridge (2011) –  
Pentium  
Xeon E3  
Xeon E5

3<sup>rd</sup> Generation Ivy Bridge (2012) –  
Pentium  
Xeon E3v2  
Xeon E5v2  
Xeon E7v2

4<sup>th</sup> Generation Haswell (2013) –  
Xeon E3v3  
Xeon E5v3  
Xeon E7v3

# Pre-EC2

## Intel Processor Generation

5<sup>th</sup> Generation Broadwell (2015) –  
Xeon D  
Xeon E3v4  
Xeon E5v4

6<sup>th</sup> Generation Skylake (2015) –  
Xeon E3v5

7<sup>th</sup> Generation Kabylake

# EC2 Concepts

## Elastic Compute Cloud

Elastic – It is the level at which a system is able to adapt to workload changes by provisioning and de-provisioning resources such that the resources meet current demand as closely as possible

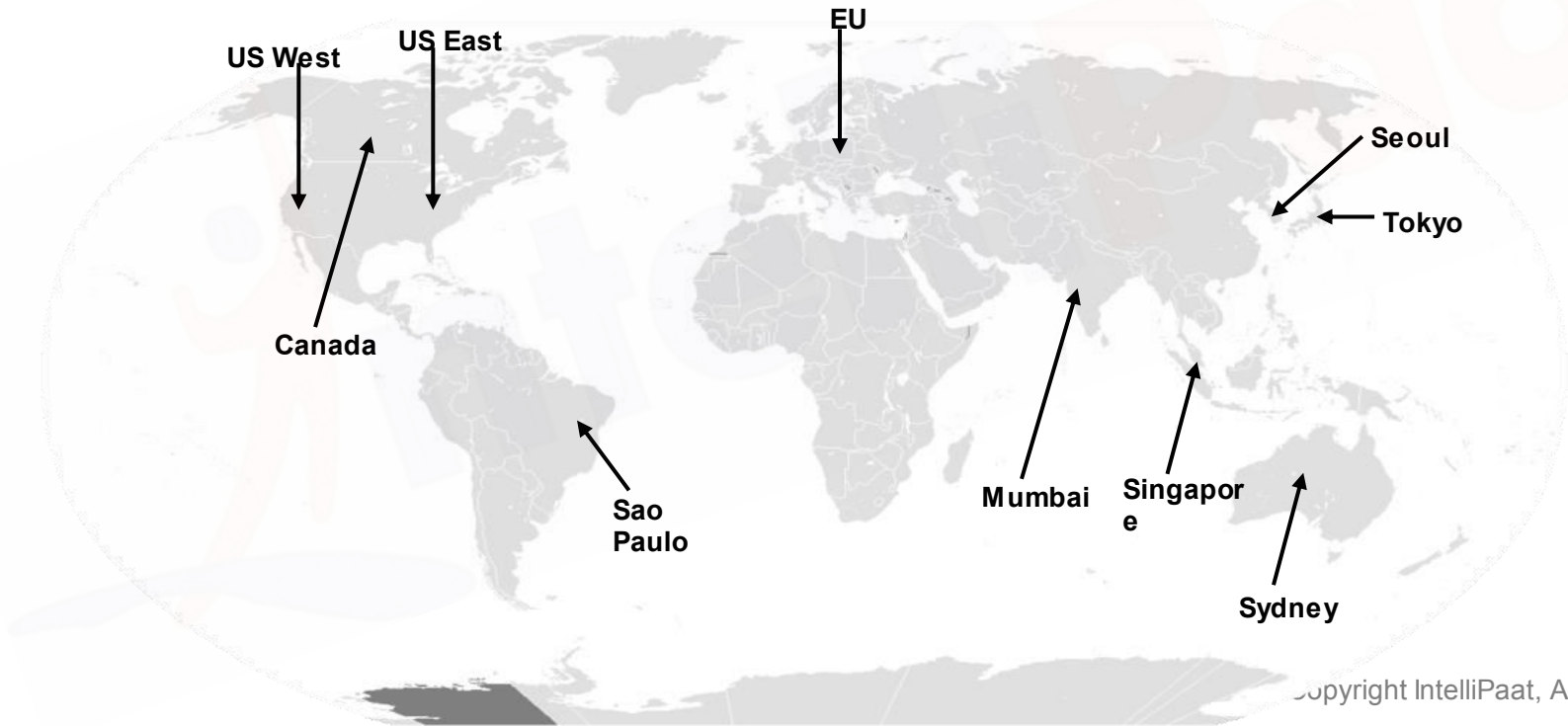
Compute  
Cloud

Elastic compute cloud adapts capacity dynamically by altering compute resources to meet the need of a varying workload



# EC2 Concepts

## Regions and Availability Zones



# EC2 Concepts

## Regions and Availability Zones

Regions are geographical locations where AWS data centers reside. Following are AWS region names and its subdivisions:

US East: N. Virginia (us-east-1), Ohio (us-east-2)

US West: N. California (us-west-1), Oregon (us-west-2)

Asia Pacific: Mumbai (ap-south-1), Seoul (ap-northeast-2), Singapore (ap-southeast-1), Sydney (ap-southeast-2), Tokyo (ap-northeast-1)

EU: Frankfurt (eu-central-1), Ireland (eu-west-1), London (eu-west-2), Paris (eu-west-3)

Availability Zones are actual data centers located in regions mentioned above. For example “us-east-1” contains 6 data centers or Availability Zones: us-east-1a, us-east-1b, us-east-1c, us-east-1d, us-east-1e and us-east-1f (as of this writing).



Availability Zone

Region



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**24X7 Chat with our Course Advisor**