

AWS Certified Solutions Architect — Associate (SAA-C01)



Module 2

Compute — EC2 Instances

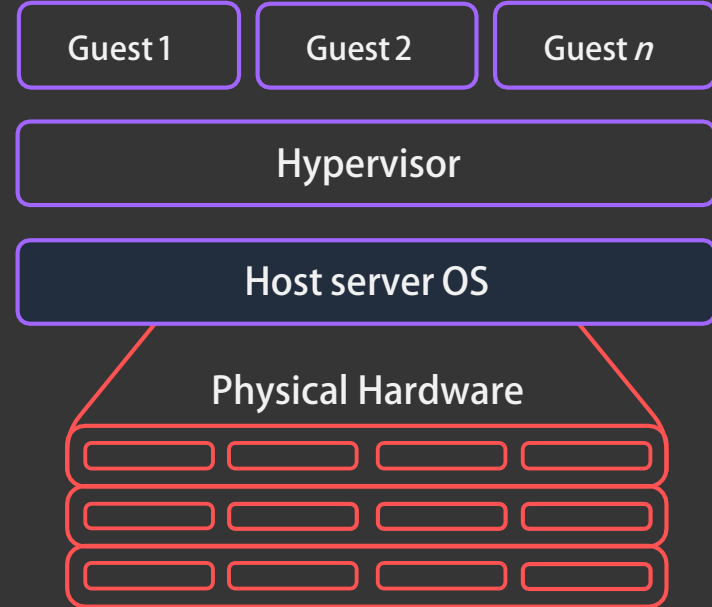
Agenda

- 📦 Introduction to EC2
- 📦 Instance Families
- 📦 Instance Billing Models
- 📦 Instance Tenancy Models
- 📦 Labs

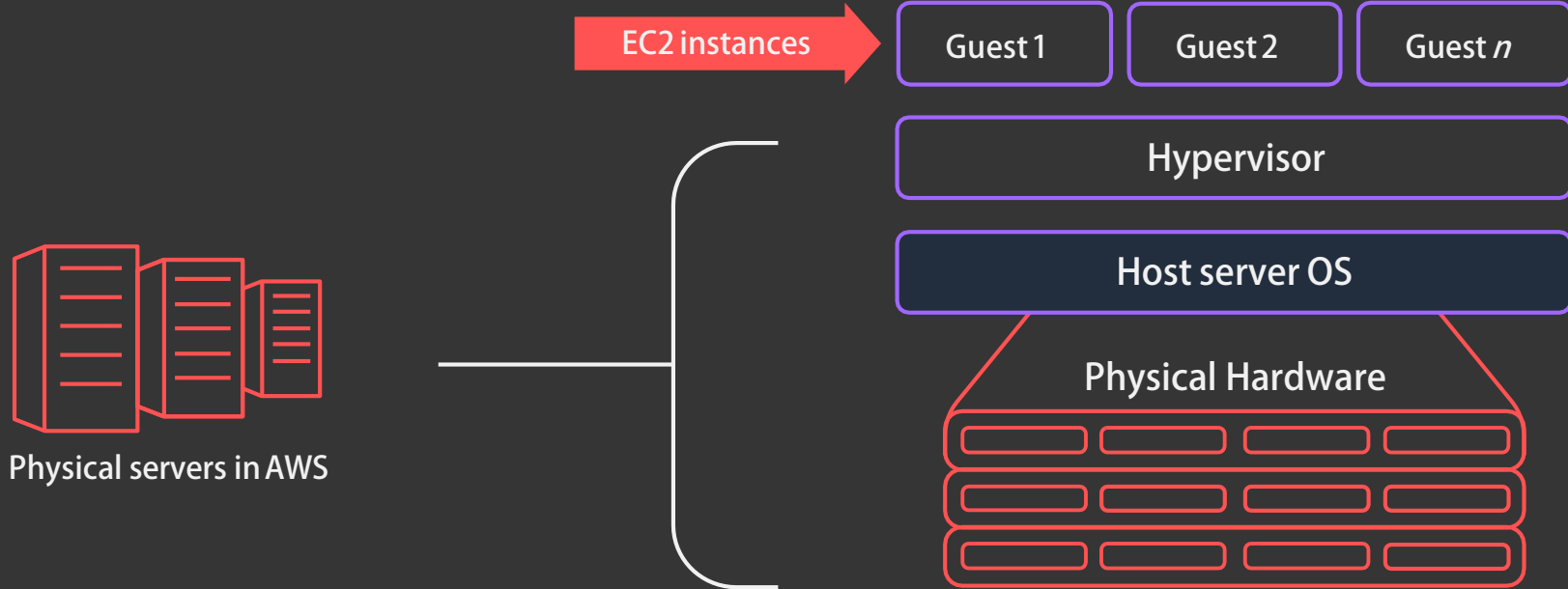
Virtual servers in the cloud



Physical servers in the cloud



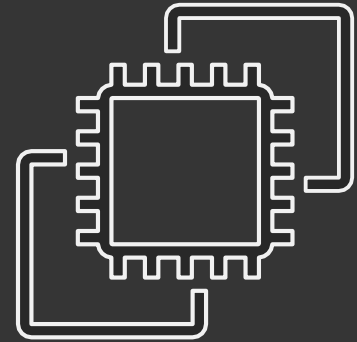
Amazon Elastic Compute Cloud (Amazon EC2)



Amazon Elastic Compute Cloud (Amazon EC2)

Virtual Servers in the cloud

- 📦 Resizable Compute Capacity (Nano to 32xlarge)
- 📦 Linux & Windows (Packaged/Custom/Community Images)
- 📦 x86 & ARM architectures (Intel | AMD | Graviton)
- 📦 Choose from 180+ instance types across general purpose, workload optimized & bare metal.
- 📦 Scale as your requirements change with autoscaling.
- 📦 Pay only for what you use with multiple billing models.
- 📦 Custom Hypervisor –Nitro System.



Amazon EC2

EC2 Instance Families

General Purpose	A1	
	M5	M4

Burstable	T3	T3a	T2
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Compute Intensive	C5	C5n	C4
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Memory Intensive	R5	R5a	R4
	X1	X1e	
	Z1d		

Storage (High I/O)	I3	I3en
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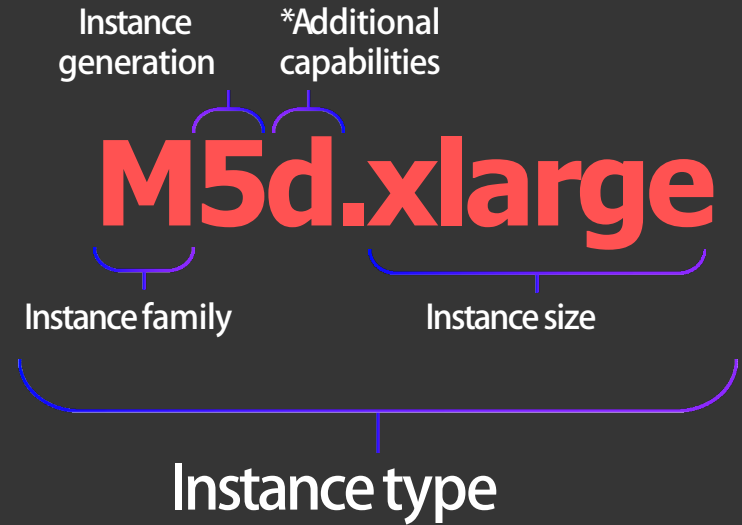
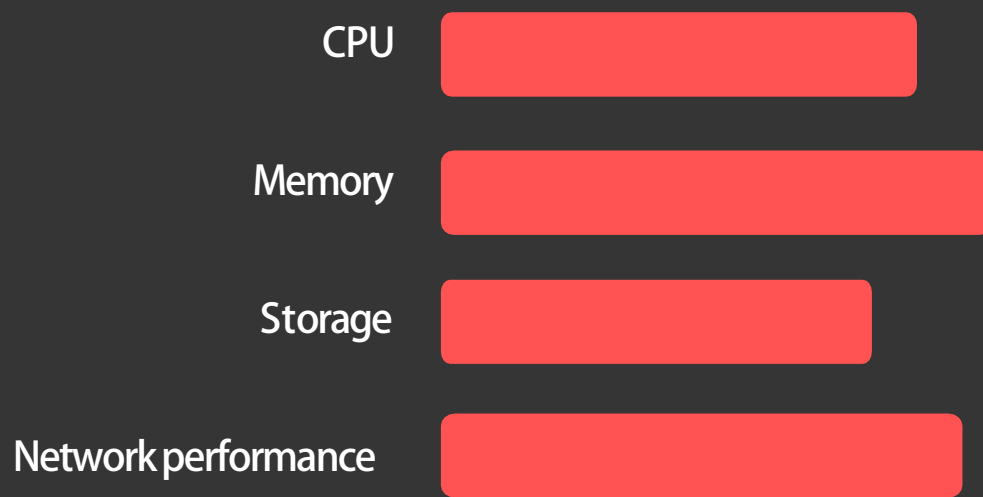
Dense Storage	D2
	H1

GPU Compute	P3	P2
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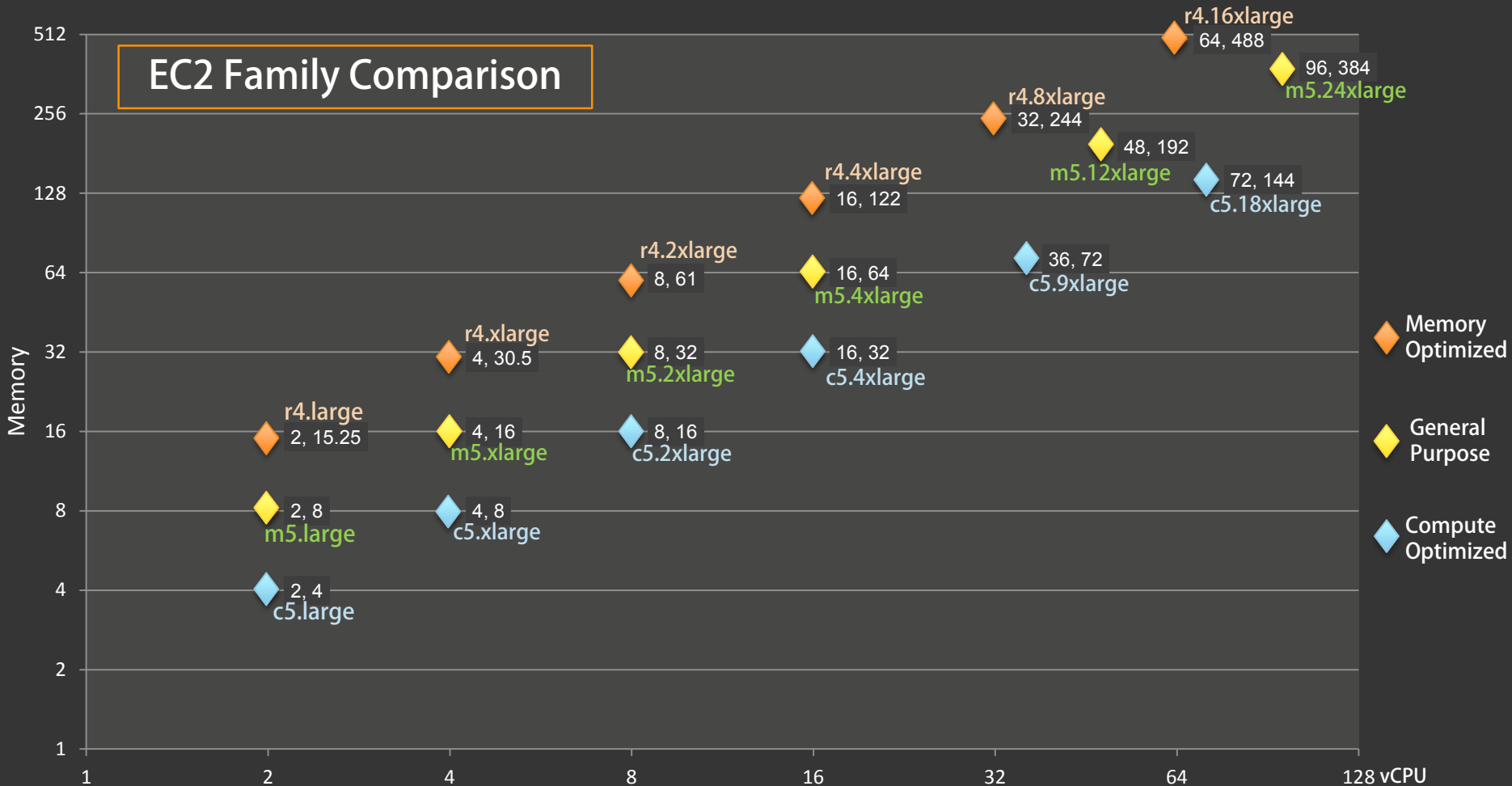
Graphics Intensive	G3
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FPGA	F1
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Amazon EC2 instance characteristics



EC2 Family Comparison



EC2 Instance Billing Models


On-Demand Instance

-  Pay per use. Charged per second /hourly (windows) anytime instance is running (turned on).

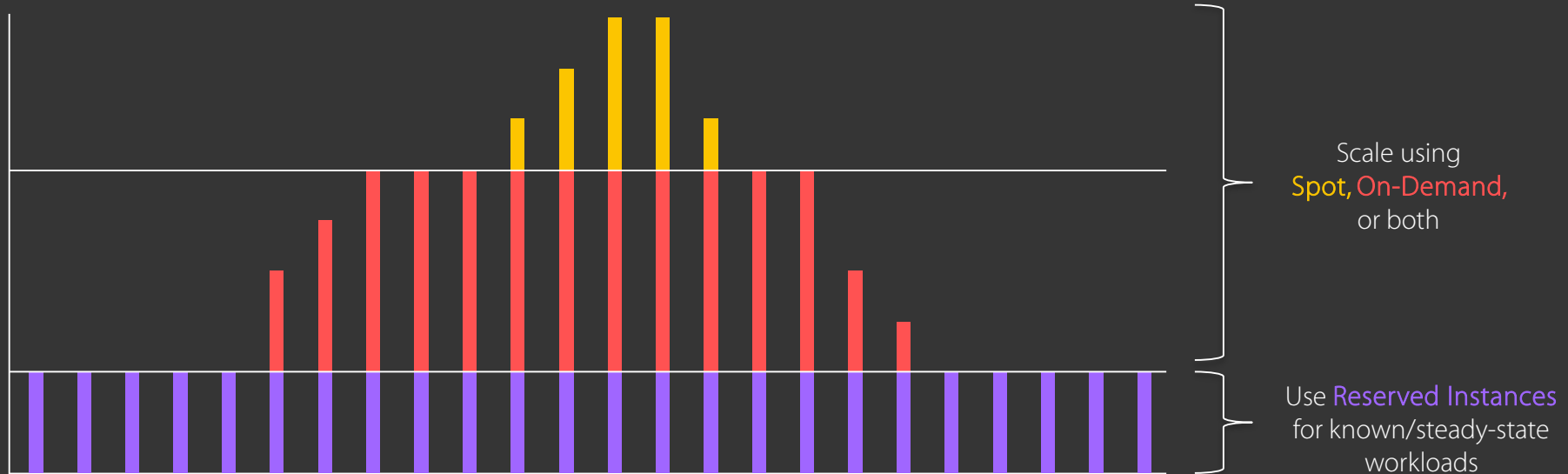
Reserved Instance

-  Pre-paid for 1Yr and 3Yr contracts for a specific instance type regardless of you running those instances or not.

Spot Instance


-  Ultra low cost instances purchased through the spot market which has un-utilized capacity. You set a maximum you are willing to pay per hour and you pay the Spot price that's in effect for the time period your instances are running or till it exceeds your set amount.

Capacity and cost optimization




Instance Tenancy Models


Shared Host Instance

-  Although the virtual instance is dedicated for your use, the underlying Host system (physical server) is shared by multiple accounts to run multiple virtual instances.

Dedicated Host

-  The underlying Host system is dedicated for your use. Only you can launch instances on this Host machine. It gives you additional visibility and control over how instances are placed on a physical server to meet compliance requirements

Dedicated Instance

-  Instances are isolated from each other at the host hardware level but the customer does not have control over where/how the instances are placed.

EC2 Labs

- 📦 Creating EC2 Instances
- 📦 Key Pairs & Connectivity/Login options to EC2 instances
- 📦 Configuring an application inside EC2 Instance
- 📦 Stopping & Starting EC2 Instances
- 📦 Terminating EC2 Instances
- 📦 Bootstrap configurations
- 📦 Assigning Private & Elastic IPs

Thank You!

Q & A