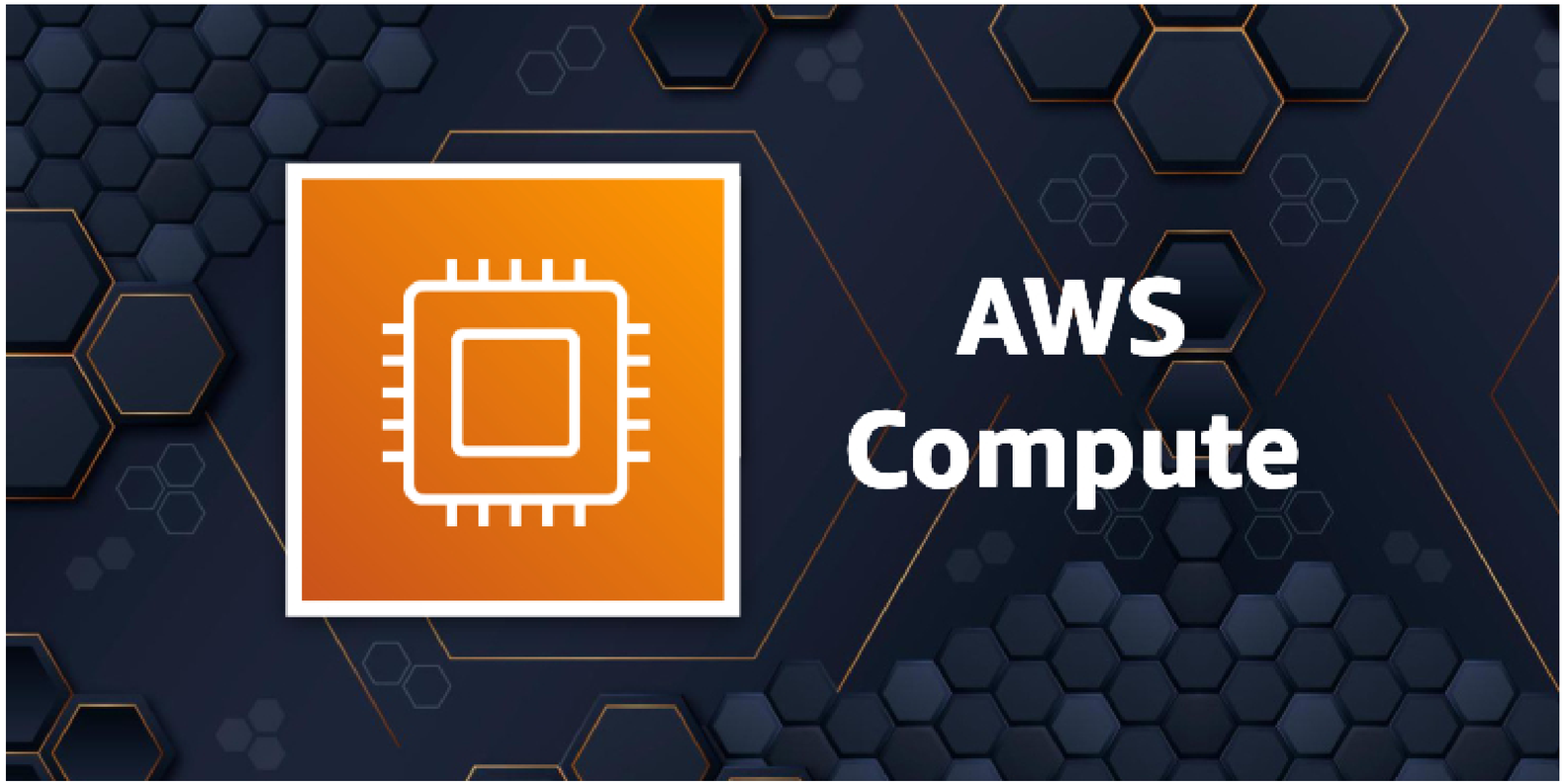
Get Started with Amazon Compute Services

Agenda

- Amazon Compute Service
- What is EC2?
- Interesting things about EC2
- Features of EC2
- Use Case
- Basics
  - -Instances And AMIs
  - -Instance Types
  - -Regions and Zone
  - - Instance Lifecycle
- Networking and security
  - -Key pairs
  - -Security Groups
  - - Elastic IP Addresses
  - -VPC
- Storage
  - - Amazon EBS
  - -Instance Store



Amazon
EC2

Amazon
Lambda

Amazon
Lightsail

Amazon ECR

Amazon ELB

AWS EC2

Secure and Resizable Compute capacity for virtually any workload

AWS EC2 was launched in 2006

What is EC2?

Amazon Elastic Compute Cloud(Amazon EC2)

-It provide scalable computing capacity in the AWS

-It eliminates your need to invest in hardware up front, so you can develop and deploy applications faster.

-Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

Interesting things of EC2

-Broadest and Deepest compute Platform

-500 instances and choice of the latest processor, storage, networking, operating system and purchase model

-Supports Intel, AMD, and Arm processor

-EC2 Mac Instance support

-400 Gbps Ethernet Networking

Features of Amazon EC2

- Virtual computing environments , known as ***instance***
- Preconfigured templates for your instances, known as ***Amazon Machine Images (AMIs)***
- Various configurations of CPU, memory, storage, and networking capacity for your instances, known as ***instance types.***
- Secure login information for your instances using ***key pairs.***
- Storage volumes for temporary data that's deleted when you stop, hibernate, or terminate your instance, known as ***instance store volumes***

- Persistent storage volumes for your data using ***Amazon Elastic Block Store (Amazon EBS)***
- Multiple physical locations for your resources, known as ***Region and availability Zones***.
- A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using ***security groups***
- Static IPv4 addresses for dynamic cloud computing, known as ***Elastic IP addresses***

- Virtual networks you can create that are logically isolated from the rest of the AWS Cloud, and that you can optionally connect to your own network, known as ***virtual private clouds (VPCs)***

Use Cases

- -Hosting environments
- -Development and test environments
- -Backup and Disaster recovery
- -Banking and financial sector
- -Marketing and advertisement
- -High Performance computing

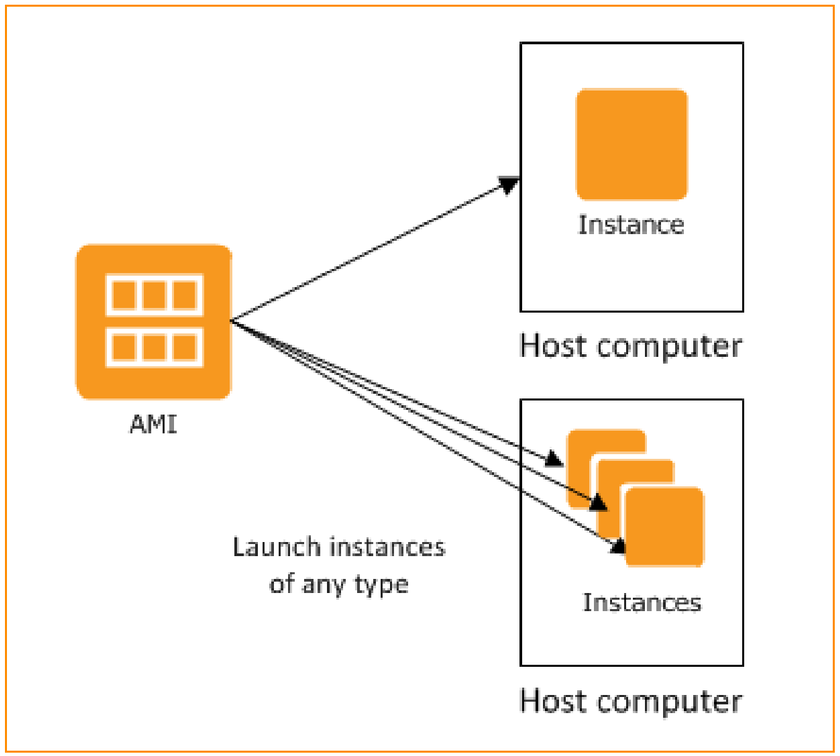
Instances and AMIs

AMIs

- An Amazon Machine Image (AMI) is a template that contains a software configuration

- From an AMI, you launch an instance, which is a copy of the AMI running as a virtual server in the cloud.

- You can launch multiple instances of an AMI, as shown in the following figure.



Types of AMIs

1.AWS Provided AMI's(free)

2.Community AMI's(free)

3.AWS Marketplace AMI(free and paid)

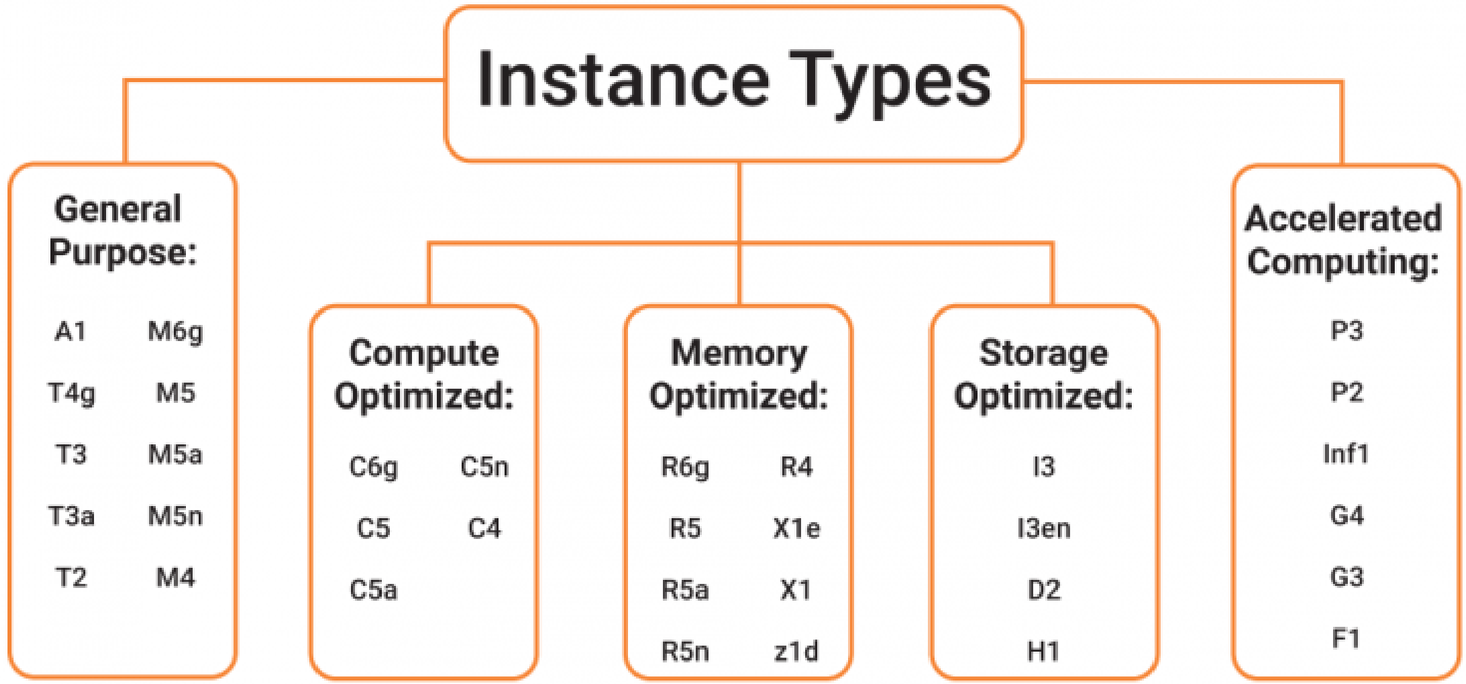
4.Your custom AMI's

Instances

- An instance is a virtual server in the cloud.
- Its configuration at launch is a copy of the AMI that you specified when you launched the instance.

Instances Types

- General Purpose
- Compute Optimized
- Memory Optimized
- Accelerated Computing
- Storage Optimized



Regions and Zones

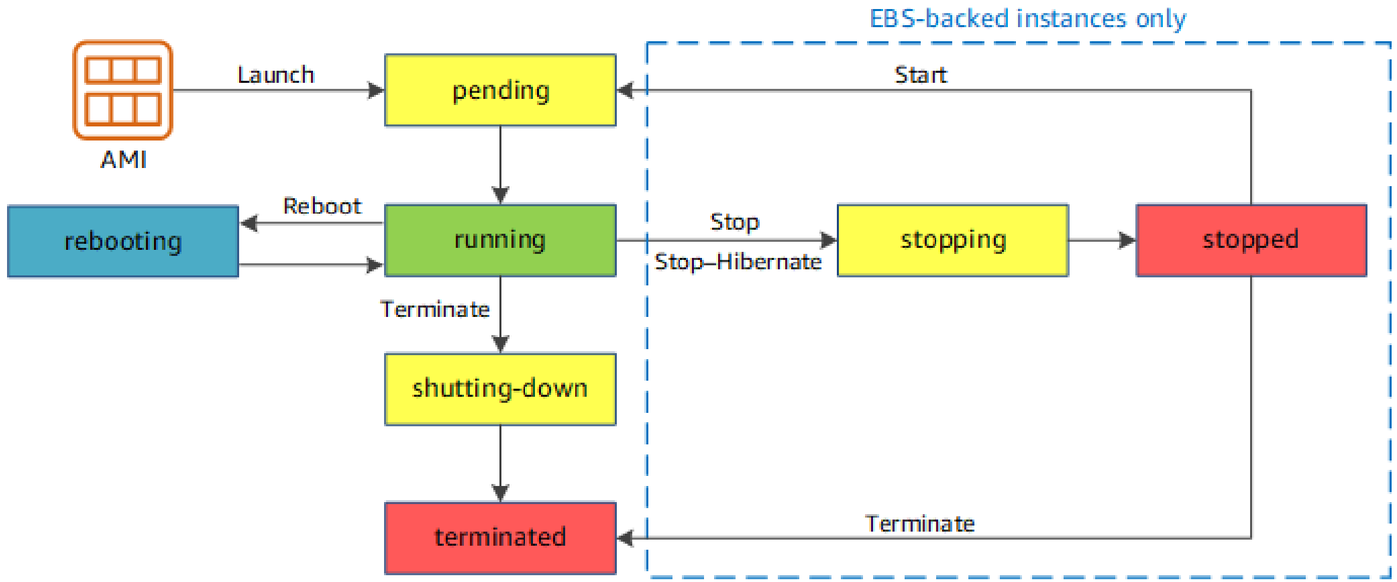
-Amazon EC2 is hosted in multiple locations world-wide.

-These locations are composed of AWS Regions, Availability Zones, Local Zones, AWS Outposts, and Wavelength Zones.

- Each Region is a separate geographic area.
- Availability Zones are multiple, isolated locations within each Region.
- Local Zones provide you the ability to place resources, such as compute and storage, in multiple locations closer to your end users.
- AWS Outposts brings native AWS services, infrastructure, and operating models to virtually any data center, co-location space, or on-premises facility.

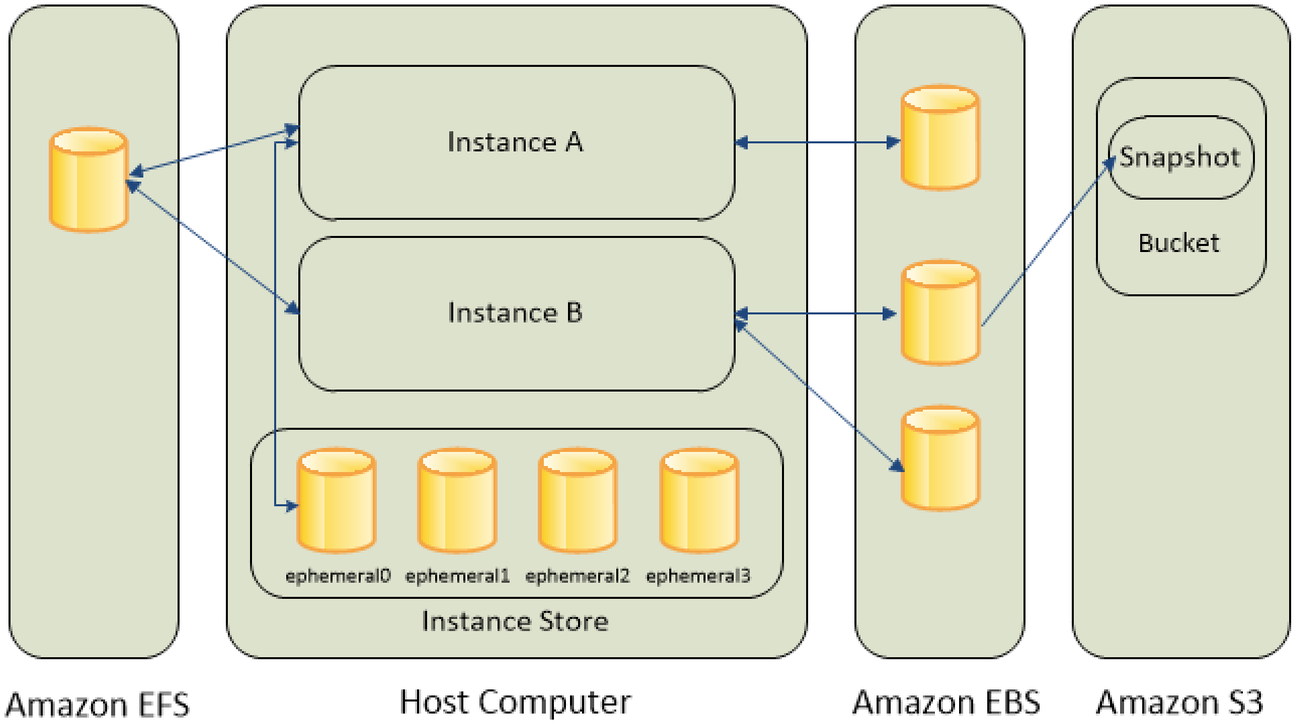
Instance Lifecycle

An Amazon EC2 instance transitions through different states from the moment you launch it through to its termination.



Storage

-Amazon EC2 provides you with flexible, cost effective, and easy-to-use data storage options for your instances.
-Each option has a unique combination of performance and durability.
-These storage options can be used independently or in combination to suit your requirements.



Exploring EC 2 services

STEP 1. search for EC2 in search bar

STEP 2. Analyze EC2 Dashboard

STEP 3. Analyze Global View

https://github.com/ParthGoswami001/AWS-Workshop

Hands On with EC 2

Exercise 1.Configure and Launch a simple Linux EC2 instance

Exercise 2. Install the Apache web server in EC2 instance and create a golden image from it

GitHub link: https://github.com/ParthGoswami001/AWS-Workshop

Quiz Time