



# AMI & Snapshot



## Today's Takeaways

- ▶ Amazon Machine Image (AMI)
- ▶ Snapshot



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# Amazon Machine Image (AMI)

CLARUSWAY  
WAY TO REINVENT YOURSELF



## Amazon Machine Image (AMI)

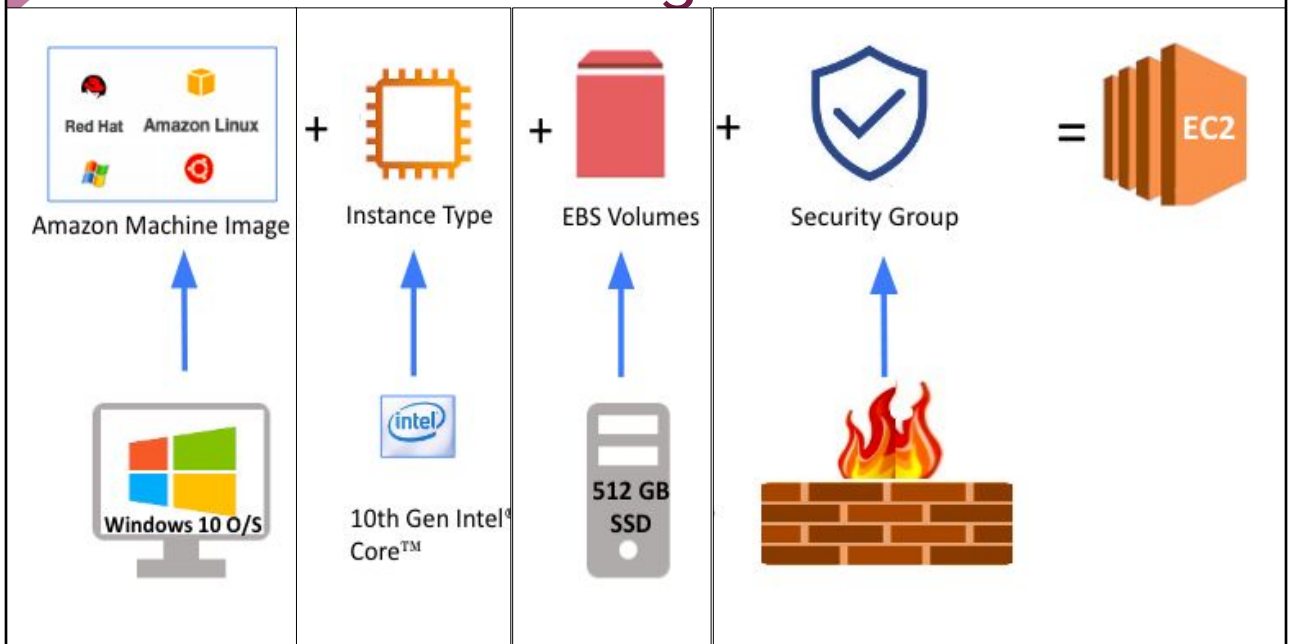
What is AMI?



- An Amazon Machine Image (AMI) is used for the launching an virtual instances in the AWS environment.
- AMI are **like templates** that are configured with an **operating system and other software**, which determine the user's operating environment.
- You can copy an AMI . So you can launch **multiple instances** from a single AMI **with the same configuration**.

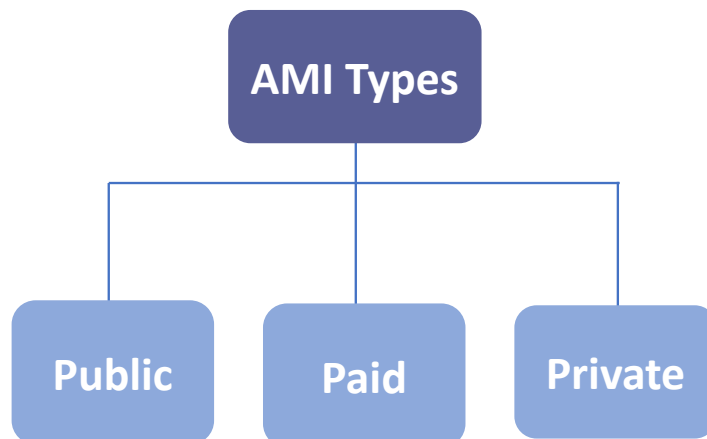


# Amazon Machine Image



# Amazon Machine Image (AMI)

## Types of AMIs





## 2 Snapshot

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### Snapshot

What is Snapshot?

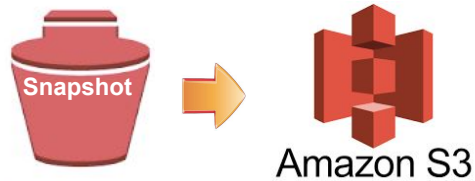


- It is a **point-in-time copy** of your Amazon EBS Volume/Instance
- Snapshots are used for the **purpose of**
  - Backup
  - Copying AMI for creating multiple instances with the same features.
  - Creating a new Volume



# Snapshot

## Features of the Snapshot

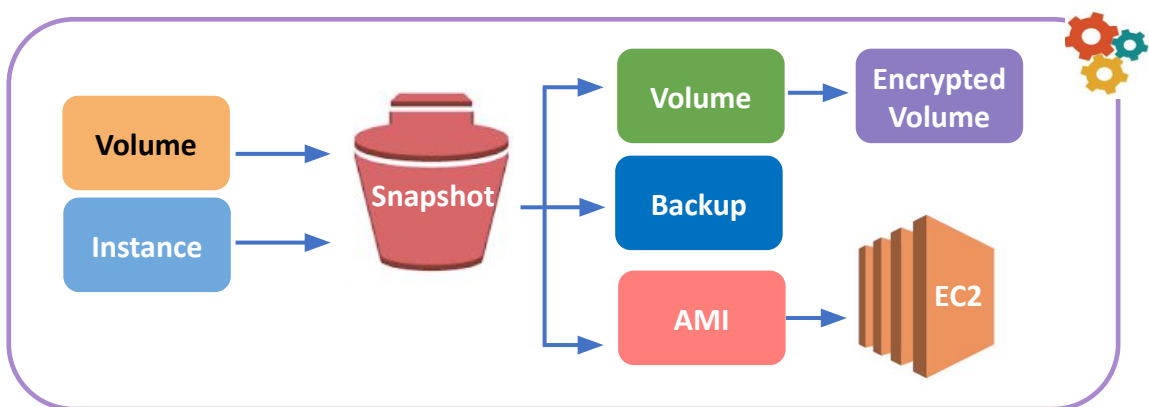


- Source from **Volume** or **Instance**
- Stored in **Amazon S3**
- **Incremental** storage
- **Data Lifecycle Manager (DLM)**



# Snapshot

## Lifecycle of Snapshot

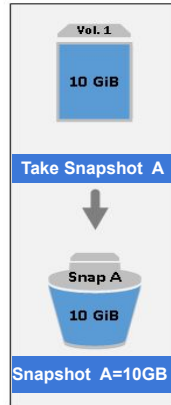


# Snapshot

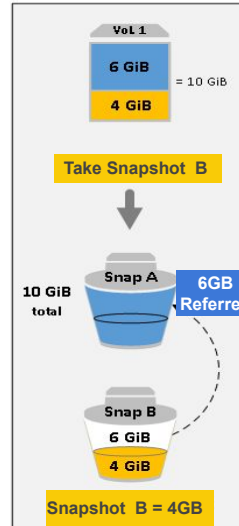
## Incremental Backups

32 GiB vs. 16 GiB

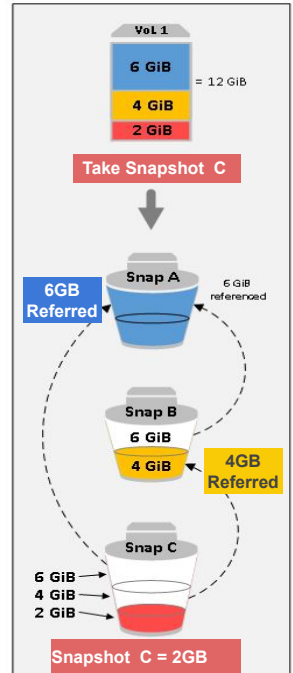
State 1 – 10 GiB



State 2 – 4 GiB changed



State 3 – 2 GiB added



Snapshot A = 10 GB

Snapshot B = 4 GB Changed + Referred 6 GB Snapshot A

Snapshot C = 2 GB Added + Referred 6 GB Snapshot A + 4 GB Snapshot B

# Snapshot

## Data Lifecycle Manager (Amazon DLM)



MONDAY  
03:00 AM

TUESDAY  
03:00 AM

WEDNESDAY  
Y  
03:00 AM

THURSDAY  
03:00 AM

FRIDAY  
03:00 AM



RETENTION=5



# Snapshot

## Data Lifecycle Manager (Amazon DLM)



RETENTION=5



MONDAY  
03:00 AM

TUESDAY  
03:00 AM

WEDNESDAY  
Y  
03:00 AM

THURSDAY  
03:00 AM

FRIDAY  
03:00 AM

MONDAY  
03:00 AM

TUESDAY  
03:00 AM

WEDNESDAY  
Y  
03:00 AM

THURSDAY  
03:00 AM

FRIDAY  
03:00 AM

SATURDAY  
03:00 AM

MONDAY  
03:00 AM

TUESDAY  
03:00 AM

WEDNESDAY  
Y  
03:00 AM

THURSDAY  
03:00 AM

FRIDAY  
03:00 AM

SATURDAY  
03:00 AM

SUNDAY  
03:00 AM

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# Snapshot

## Data Lifecycle Manager (Amazon DLM)- Backup and Restore



MONDAY  
03:00 AM

TUESDAY  
03:00 AM

WEDNESDAY  
Y  
03:00 AM

THURSDAY  
03:00 AM

FRIDAY  
03:00 AM

1



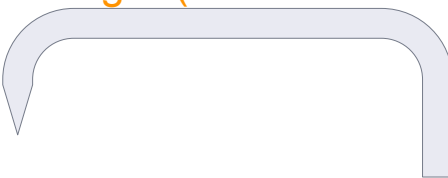
NEW VERSION  
APP. UPLOADED

2



FAILURE  
DETECTED

3



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# Snapshot

## Encryption of Root Device via Snapshot

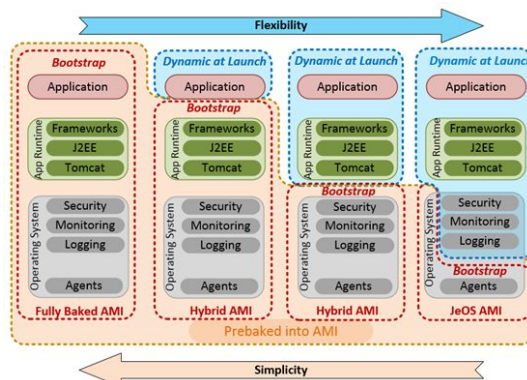


- Root device (volume) cannot be encrypted after creation. “How to encrypt unencrypted volume after creation” is a common question that can be asked in certification exams!
  - Take snapshot of unencrypted volume.
  - Copying the unencrypted Snapshot,
  - You are able to encrypt this Snapshot while copying
  - Create an encrypted volume from this copied Snapshot.



# Golden AMI

- A golden AMI is an AMI that contains security patches, configuration, and agents required to by an organization. A “just enough OS” (jeOS) is the most basic golden AMI.
- It may also contain specific software components that make it easier and faster to start-up an instance .







# Snapshot

Let's get our hands dirty!

- Create Snapshots
- Make Public The Snapshot
- Data Life Cycle Manager
- Creating AMI from the Snapshot
- Creating Volume from the Snapshot
- Creating an Image from Instance



# THANKS!

Any questions?

