AMI & Snapshot

CLARUSWAY
WAY TO REINVENT YOURSELF

Today's Takeaways

▶ Amazon Machine Image (AMI)

▶ Snapshot

CLARUSWAY
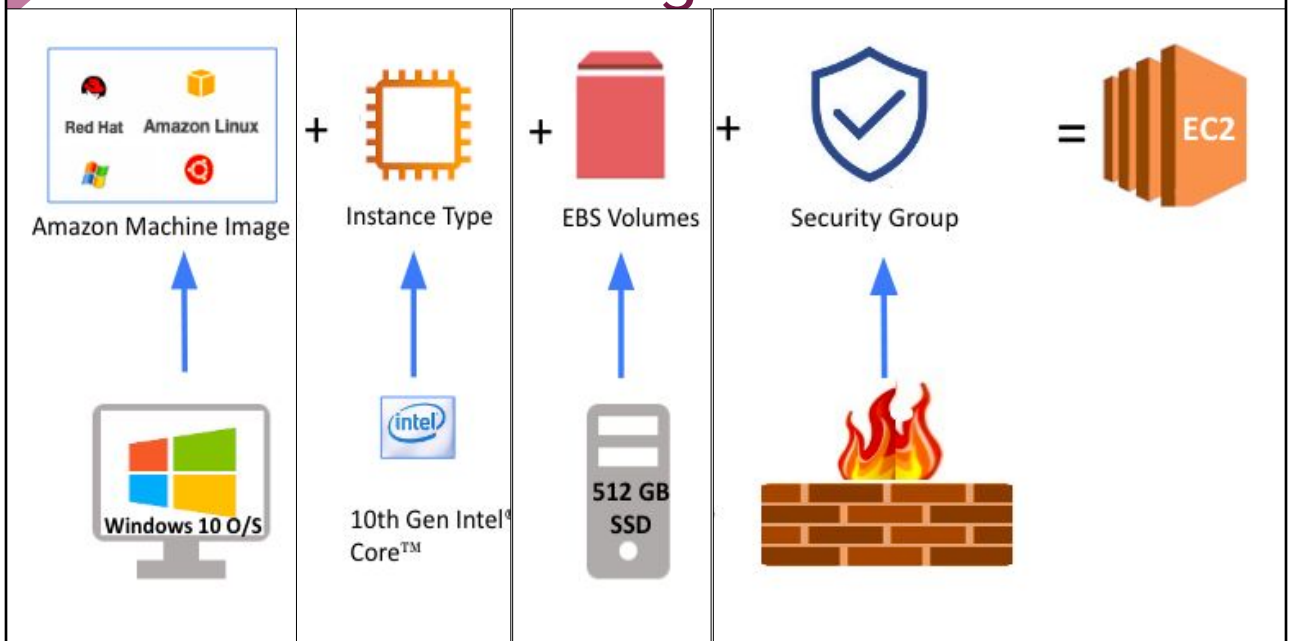WAY TO REINVENT YOURSELF

1 Amazon Machine Image (AMI)

Amazon Machine Image

Amazon Machine Image + Instance Type + EBS Volumes + Security Group = EC2

Red Hat   Amazon Linux

Windows 10 O/S

10th Gen Intel® Core™

512 GB SSD

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.

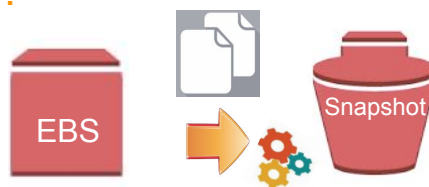# Amazon Machine Image (AMI)

Types of AMIs

AMI Types

Public   Paid   Private
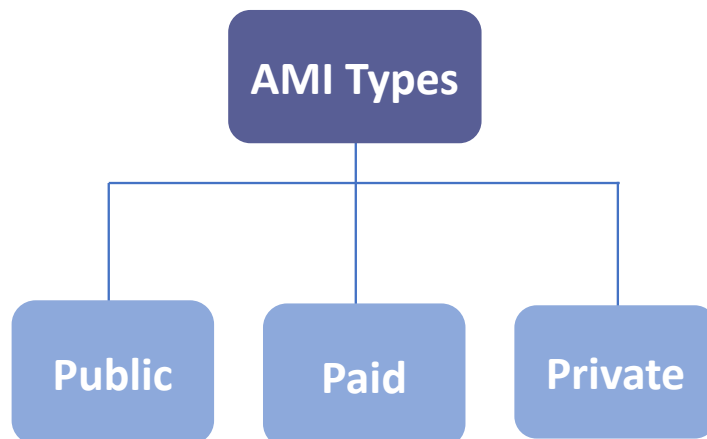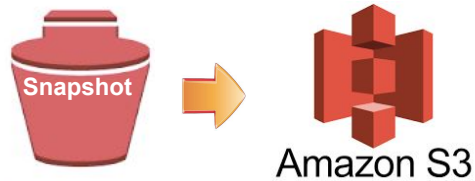
2 Snapshot

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.
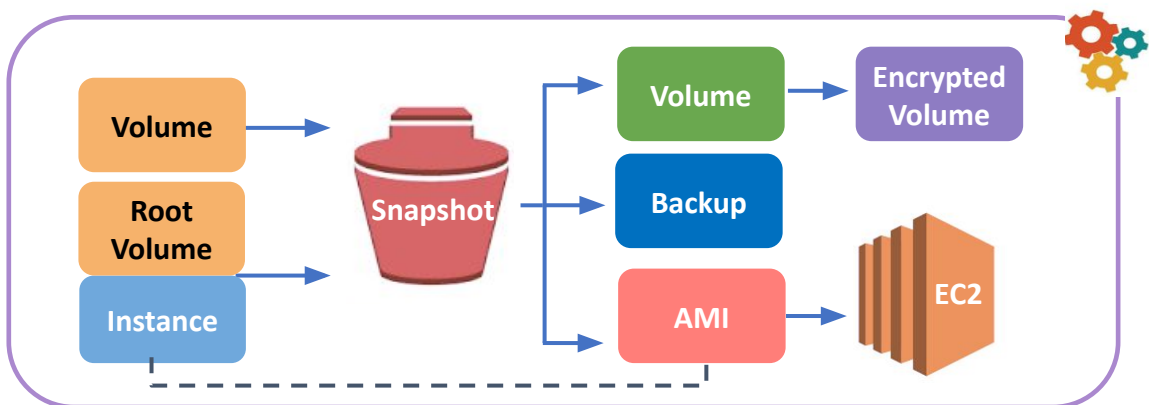 - Creating a new Volume

Snapshot

Features of the Snapshot

- Source from Volume or Instance

- Stored in Amazon S3

- Incremental storage

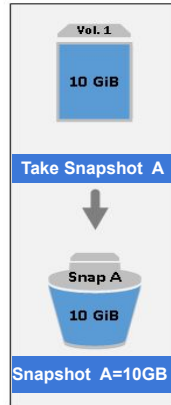- Data Lifecycle Manager (DLM)

Snapshot

Lifecycle of Snapshot

Snapshot

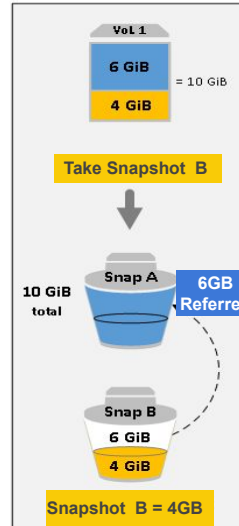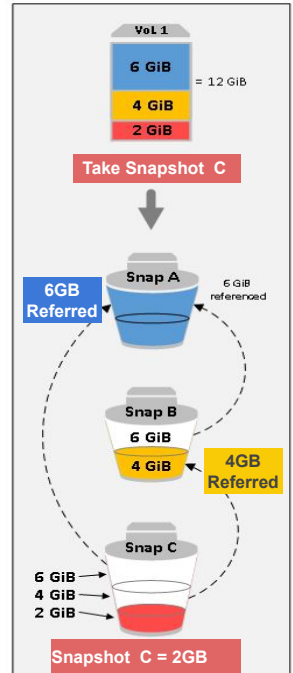## Incremental Backups

32 GIB vs. 16 GIB

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

State 1 – 10 GiB

Vol. 1

10 GiB

Take Snapshot A

Snap A

10 GiB

Snapshot A=10GB

State 2 – 4 GiB *changed*

Vol 1

6 GiB

4 GiB

= 10 GiB

Take Snapshot B

10 GiB total

Snap A

6GB Referred

Snap B

6 GiB

4 GiB

Snapshot B = 4GB

State 3 – 2 GiB *added*

Vol 1

6 GiB

4 GiB

2 GiB

= 12 GiB

Take Snapshot C

6GB Referred

Snap A

6 GiB referenced

Snap B

6 GiB

4 GiB

4GB Referred

Snap C

6 GiB
4 GiB
2 GiB

Snapshot C = 2GB

Snapshot

Data Lifecycle Manager (Amazon DLM)

EBS

| MONDAY 03:00 AM | TUESDAY 03:00 AM | WEDNESDAY 03:00 AM | THURSDAY 03:00 AM | FRIDAY 03:00 AM |

Policy

JSON

RETENTION=5

Snapshot

Data Lifecycle Manager (Amazon DLM)

Policy
JSON

RETENTION=5

EBS

MONDAY 03:00 AM	TUESDAY 03:00 AM	WEDNESDAY 03:00 AM	THURSDAY 03:00 AM	FRIDAY 03:00 AM		
MONDAY 03:00 AM	TUESDAY 03:00 AM	WEDNESDAY 03:00 AM	THURSDAY 03:00 AM	FRIDAY 03:00 AM	SATURDAY 03:00 AM	
MONDAY 03:00 AM	TUESDAY 03:00 AM	WEDNESDAY 03:00 AM	THURSDAY 03:00 AM	FRIDAY 03:00 AM	SATURDAY 03:00 AM	SUNDAY 03:00 AM

CLARUSWAY
WAY TO REINVENT YOURSELF

Snapshot

Data Lifecycle Manager (Amazon DLM)- Backup and Restore

3

EBS

| MONDAY 03:00 AM | TUESDAY 03:00 AM | WEDNESDAY 03:00 AM | THURSDAY 03:00 AM | FRIDAY 03:00 AM |

1
NEW VERSION APP. UPLOADED

2
FAILURE DETECTED

CLARUSWAY
WAY TO REINVENT YOURSELF

Snapshot

Encryption of Root Device via Snapshot

- Root device (volume) cannot be encrypted after creation. "How to encrypt unencrypted volume after 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 coping

  - Create an encrypted volume from this copied Snapshot.

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?

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 .