AMI & Snapshot

Today's Takeaways

▶ Amazon Machine Image (AMI)

▶ Snapshot

CLARUSWAY
WAY TO REINVENT YOURSELF

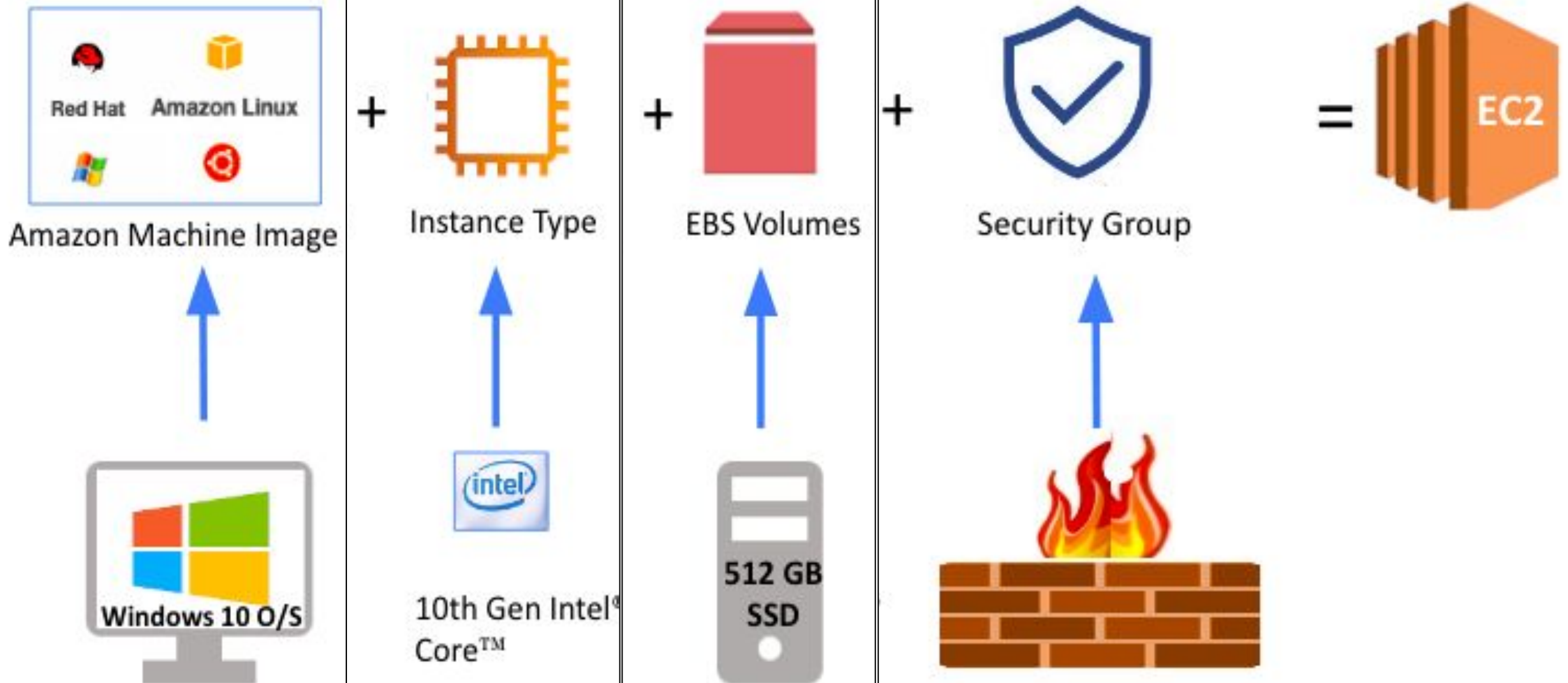**1** Amazon Machine Image (AMI)

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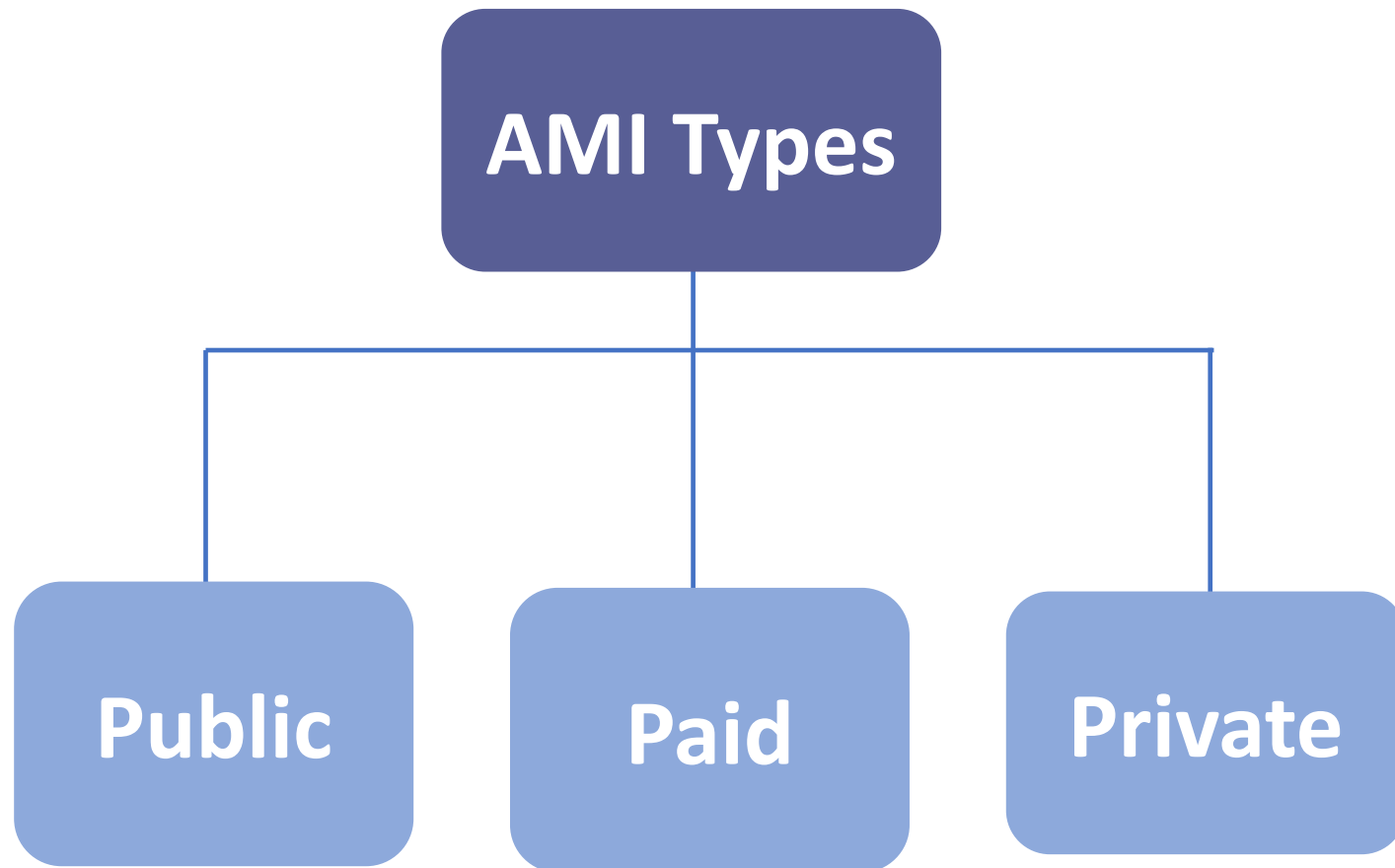
Amazon Machine Image + Instance Type + EBS Volumes + Security Group = EC2

Red Hat   Amazon Linux

Windows 10 O/S

intel

10th Gen Intel® Core™

512 GB SSD
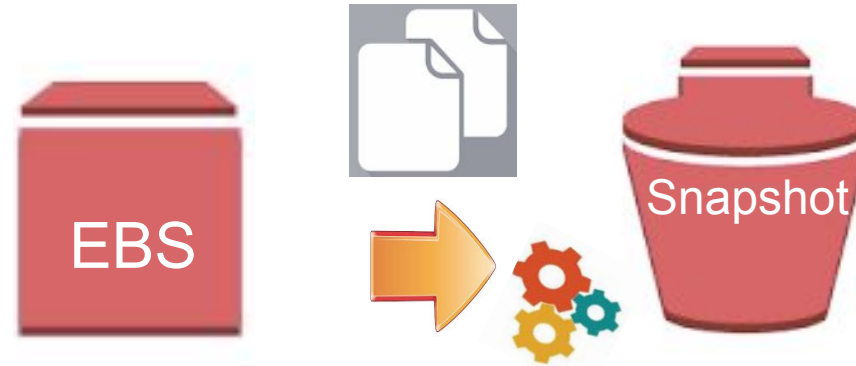
Amazon Machine Image (AMI)

Types of AMIs
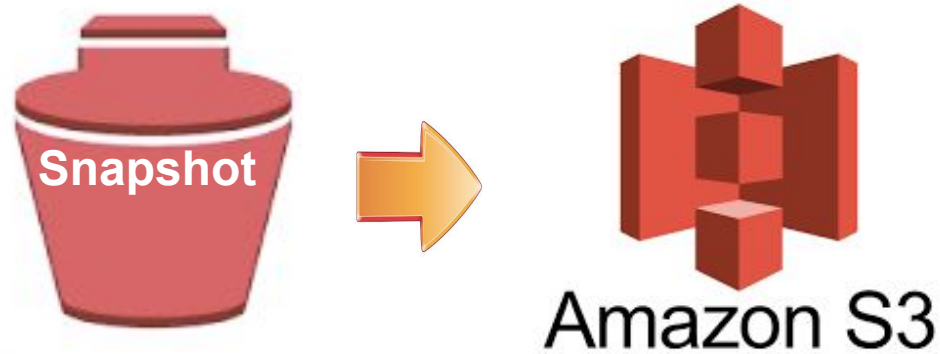
2 Snapshot

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.
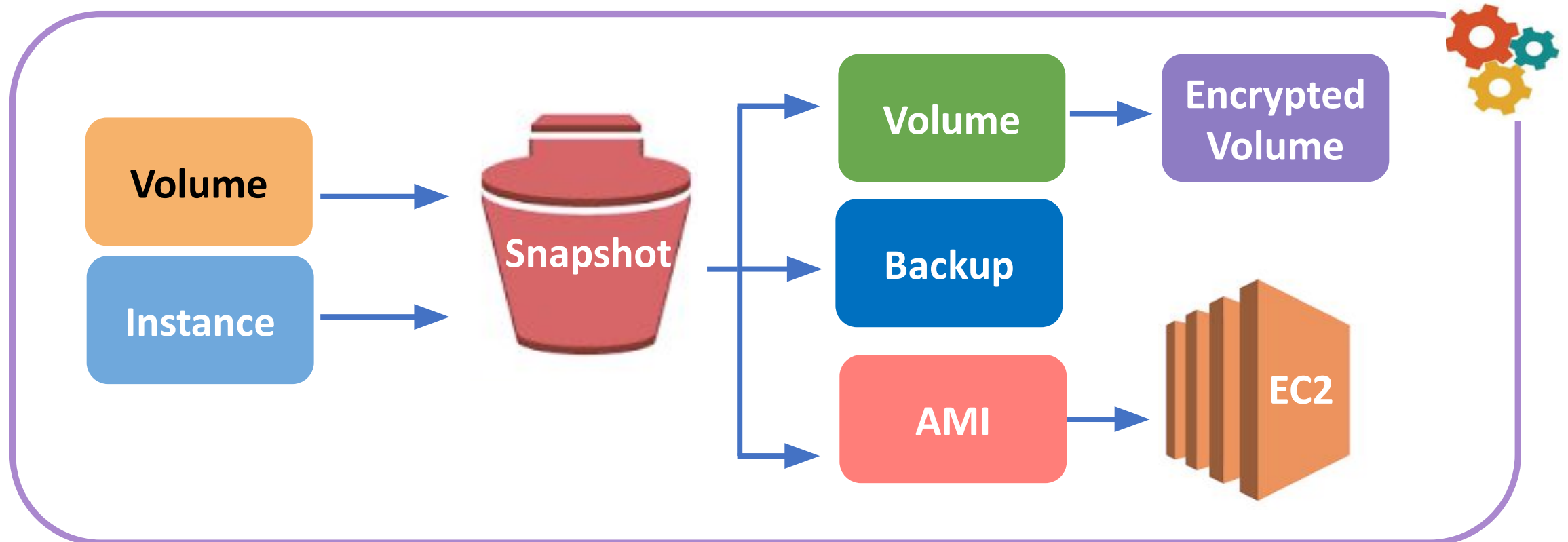
    - Creating a new Volume

Snapshot

Features of the Snapshot

- Source from Volume or Instance

- Stored in Amazon S3

- Incremental storage

- Data Lifecycle Manager (DLM)
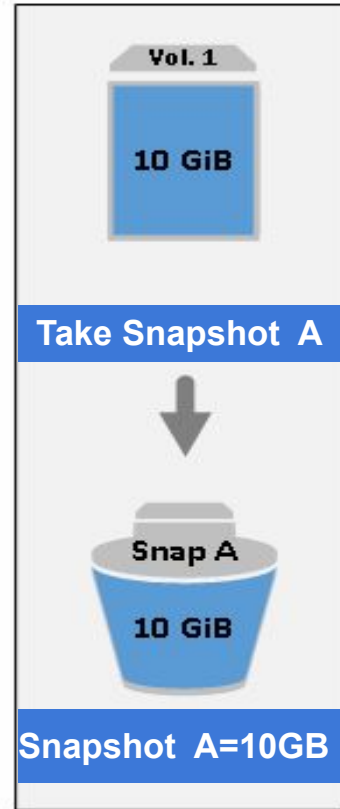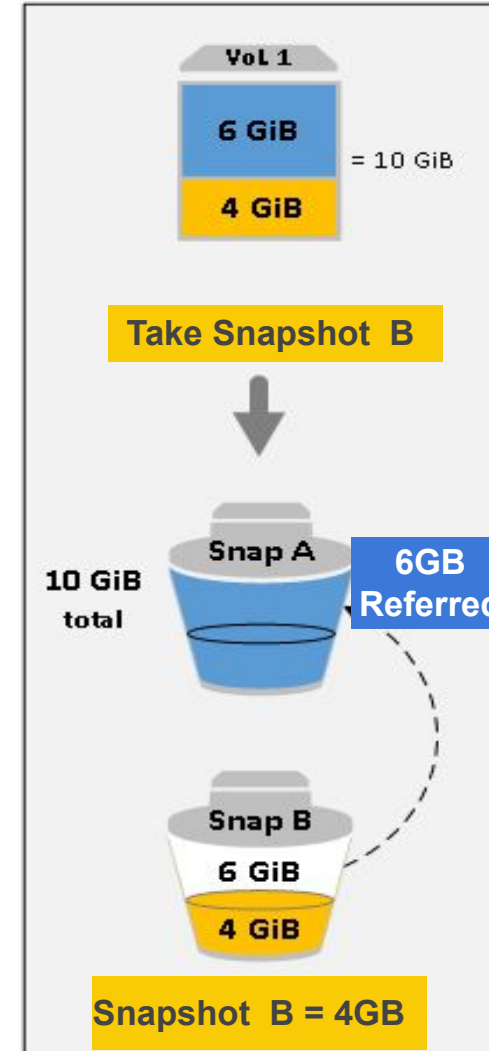
Snapshot

Lifecycle of Snapshot
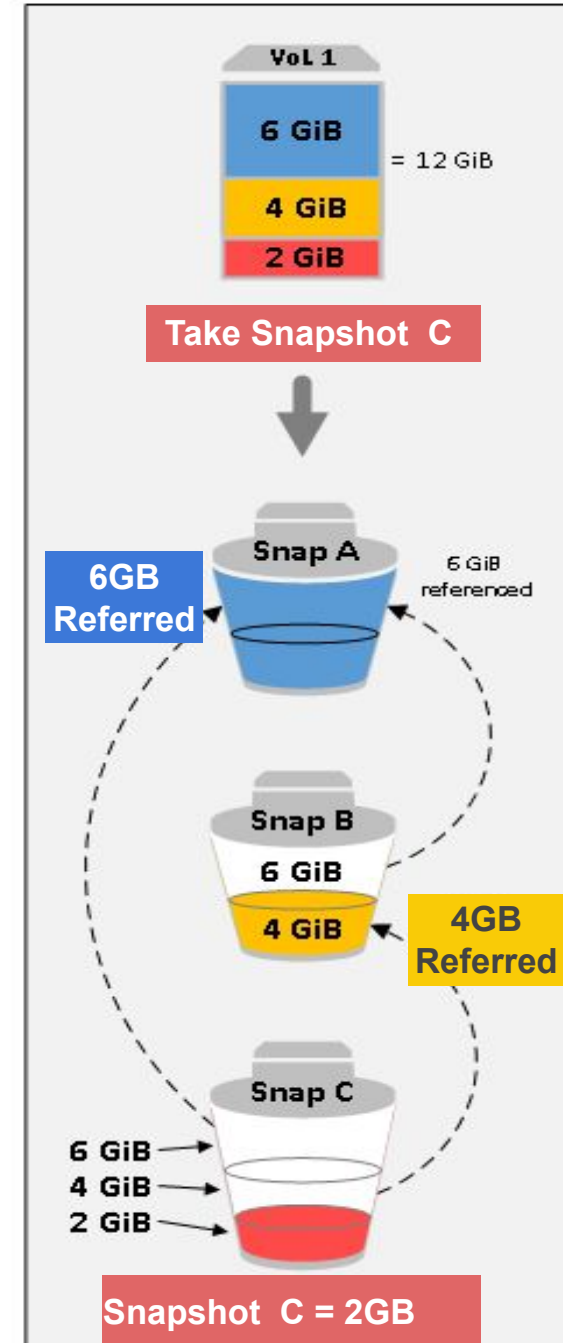
Snapshot

Incremental Backups

32 GIB vs. 16 GIB

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 = 10 GiB

4 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 = 12 GiB

4 GiB

2 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
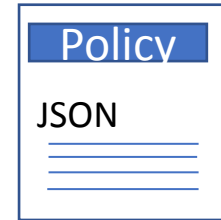
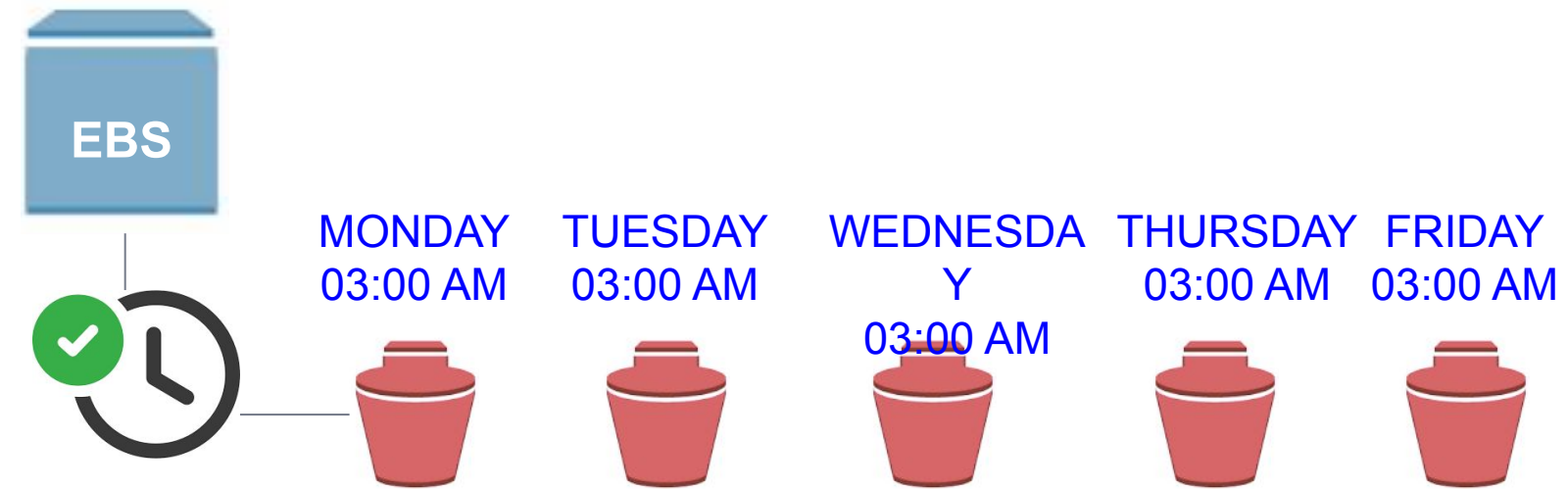Snapshot C = 2GB

Snapshot 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

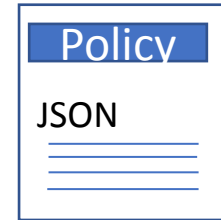# Snapshot

Data Lifecycle Manager (Amazon DLM)

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

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Snapshot

Data Lifecycle Manager (Amazon DLM)

EBS

Policy

JSON

RETENTION=5

| 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 |

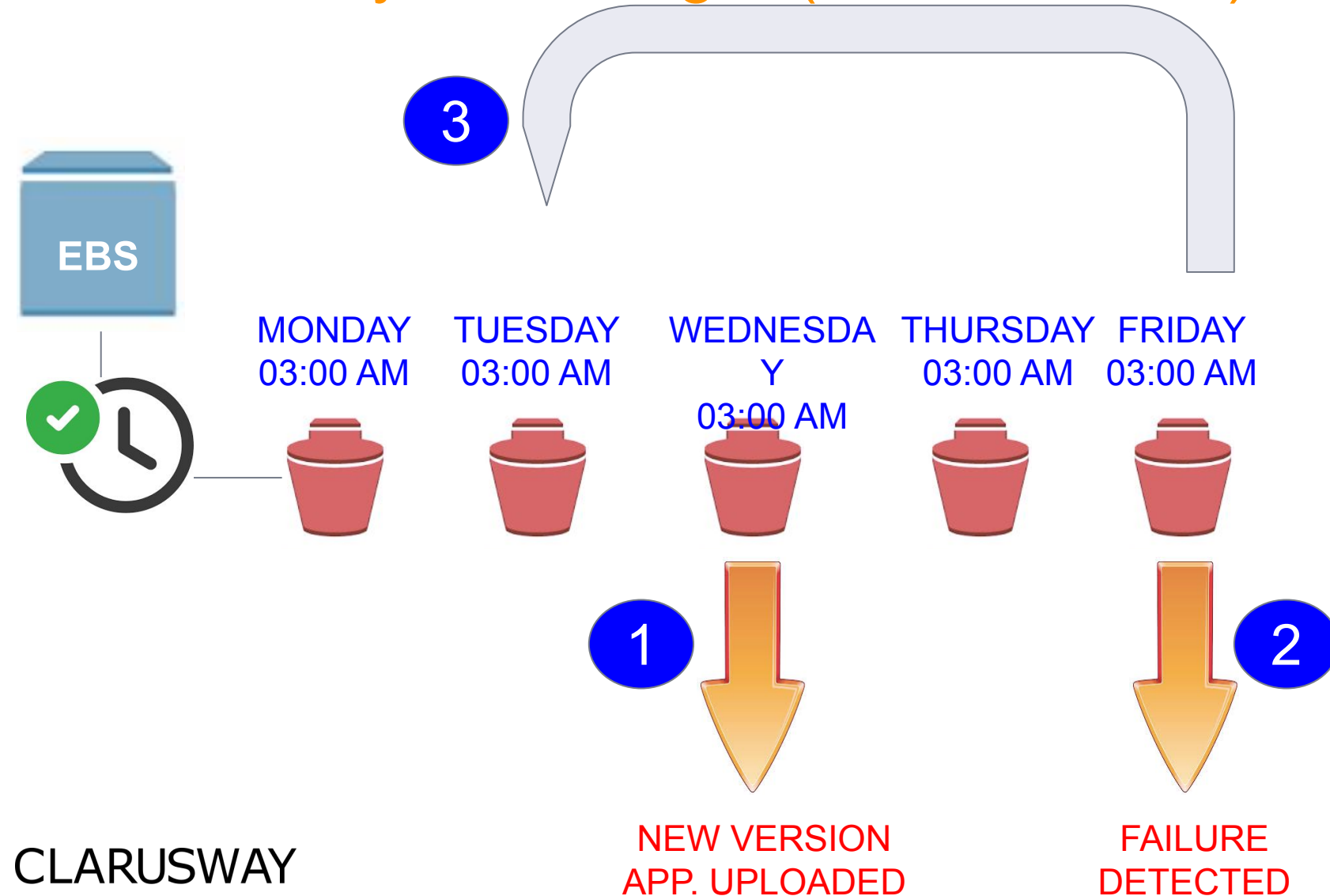| MONDAY 03:00 AM | TUESDAY 03:00 AM | WEDNESDAY 03:00 AM | THURSDAY 03:00 AM | FRIDAY 03:00 AM | SATURDAY 03:00 AM | SUNDAY 03:00 AM |

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Snapshot

Data Lifecycle Manager (Amazon DLM)- Backup and Restore

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.

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 .
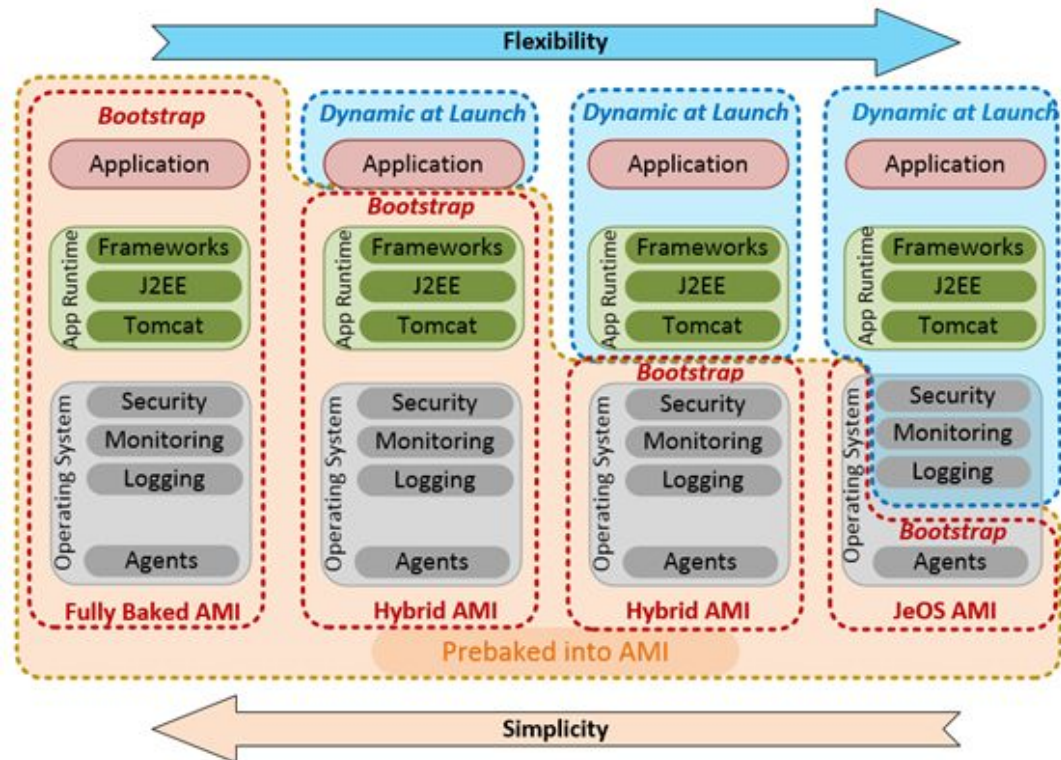
Snapshot

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

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THANKS!

Any questions?