AWS EC2 AMI & Snapshot Notes

1. What is an AMI (Amazon Machine Image)?

- An Amazon Machine Image (AMI) is a template that contains the software configuration required to launch an EC2 instance.
- It includes: Operating System (OS), Application Server, Applications/Packages, Custom configurations.
- Think of AMI as a golden image that can be reused to launch multiple instances with the same setup.

2. Types of AMIs

- Public AMIs – Provided by AWS or community.
- Private AMIs – Created by you, visible only in your account.
- Marketplace AMIs – Paid or free AMIs available on AWS Marketplace.

3. Advantages of AMI

- Faster deployment of instances (no need to reinstall everything).
- Customization (pre-installed apps, security hardening).
- Consistency across environments (Dev, QA, Prod).
- Backup of instance state.

4. Creating an AMI from an EC2 Instance

- Go to EC2 Console → Select your running EC2 Instance.
- Click on Actions → Image and templates → Create Image.
- Provide Image Name and Description, optionally include Instance Volumes.
- Click Create Image.
- CLI Command: aws ec2 create-image --instance-id i-1234567890abcdef0 --name "MyServerImage" --no-reboot

5. Creating AMI from Snapshot

- Take a Snapshot of an EBS Volume.
- Go to Snapshots → Select Snapshot → Actions → Create Image from Snapshot.
- Define AMI settings → Click Create AMI.

6. Creating an EBS Snapshot

- A Snapshot is a backup of your EBS volume (point-in-time copy).
- Stored in Amazon S3 (internally managed by AWS).
- Steps: Go to Volumes → Select Volume → Actions → Create Snapshot.
- CLI Command: aws ec2 create-snapshot --volume-id vol-1234567890abcdef0 --description "MySnapshot"

7. Recycle Bin for AMI & Snapshots

- AWS Recycle Bin lets you recover accidentally deleted snapshots & AMIs.
- You define Retention Rules: Retention Period (e.g., 7 days, 30 days), Resource Type (Snapshots, AMIs).
- Steps: Open Recycle Bin in AWS Console → Create retention rule → Select Resource Type, Retention Period, Tags → Save Rule.
- After this, if you delete a snapshot/AMI, it will move to Recycle Bin and remain recoverable until the retention period ends.

8. Recovering from Recycle Bin

- Go to Recycle Bin.
- Select deleted resource → Recover.
- The AMI/Snapshot is restored back.

9. Best Practices

- Always create AMIs before major updates.
- Use Snapshots for regular backups.
- Enable Recycle Bin rules to prevent accidental data loss.
- Tag your AMIs and Snapshots for easy identification.