DevOps Learning Notes

EBS Snapshot - AMI & SNS

In this lecture you are learning EBS Volume Snapshots, AMI & SNS:

1. EBS Volume Snapshot
2. AMI
3. SNS Topics
4. Topic Subscriptions

EBS Snapshot:

Snapshots are Point in Time backup of EBS volume which will be used to restore the volume data if you your data corrupted/lost.

- EBS provides the ability to create the snapshot (backups) of EBS volumes.
- Snapshots are incremental backups and store only the data that was changed from the time the last snapshot taken.
- We can create EBS volumes using with snapshot backup.
- Snapshot size can be same the volume size as.
- EBS snapshot can be used to migrate to different availability zones (AZ) and can be created as EBS volumes.
- Snapshot are saved incrementally; the snapshot deletion process is designed so that we need to retain only recent snapshot in order to restore the volume.
- We can restore snapshot as creating EBS volume.

AMI (Amazon Machine Image):

An AMI is basically a template with having information that required to lunch a new EC2 instance, which a virtual server in cloud.

An AMI is the installable format image of an Operating System that can be used to launch new EC2 instances with pre-defined OS configuration and optionally user data.

AMI Characteristics:

1. AMIs are region specific resources.
2. You can launch multiple EC2 instances using one AMI.
3. You cannot deregister AMI when it is currently used by an active EC2 instance.
4. You can copy the AMI to the same regions or different regions to be used in another regions to create similar like EC2 instances using that AMI.
5. AWS by default reboot the EC2 instance during the AMI creation time. Hence you ensure to check the NO REBOOT option while creating the AMI, so that Instance will not be rebooted during the AMI creation time.
6. You can share the AMI to different AWS accounts also to be listed this AMI in their accounts to create EC2.
7. Registered AMIs are billable as it interns consume storage space from AWS.
8. AMI are by default private but you can modify the permissions to make them public or share to other AWS accounts.
9. Creating AMI automatically includes all EBS volumes that are associated to that instances and creates snapshots of each volume mapped to that AMI.

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Subscribers

Subscribers receive the required message or notification over one of the supported protocols (Amazon SQS, email, Lambda, HTTP, SMS) when they are subscribed to the topic.

Publishers

Publishers are also known as producers, publishers communicate asynchronously with subscribers by producing and sending a message to a topic, which is a logical access point and communication channel.

Topic:

1. Object to which you publish your message.
2. Subscriber subscribe to the topic to receive the message.
3. By default, SNS offers 100,000 topics per account (Soft limit).
4. With the exception of SMS messages, Amazon SNS messages can contain up to 256 KB of text data, including XML, JSON and unformatted text.

SNS Characteristics:

1. SNS Topics are Regions specific resources.
2. SNS have the capability to create a Topic and sent communication to channels.
3. While creating a SNS notification the Topic should be unique name and that unique to identifies the SNS end point for owners to post messages and subscribers to register notification.
4. Amazon SNS allows you to group multiple recipients using topics where the topic is a logical access point that sends the identical copies of the same message to the subscribe recipients.

SNS Supported Transport Protocols:

1. HTTP, HTTPS – Subscribers specify a URL as part of the subscription registration; notifications will be delivered through an HTTP POST to the specified URL.
2. Email, Email-JSON – Messages are sent to registered addresses as email. Email-JSON sends notifications as a JSON object, while Email sends text-based email.
3. SQS – Users can specify an SQS queue as the endpoint; SNS will enqueue a notification message to the specified queue (which subscribers can then process using SQS APIs such as Receive Message, Delete Message, etc.)
4. SMS – Messages are sent to registered phone numbers as SMS text messages

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