VIT BHOPAL

AMAZON SNS

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Slot - A11 + A12 + A13

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What is SNS ?

- Fully managed pub/sub messaging and mobile notifications service.
- Enables decoupled microservices and serverless applications.

Use Cases

- Application alerts
- User notifications (SMS/email/push)
- Workflow triggers (e.g., Lambda functions)
- Fan-out message delivery to multiple systems

Basic Concepts

- Publisher (Producer): Sends the message
- Topic: A logical access point for the message
- Subscriber (Consumer): Receives the message
- Message: The content/data being shared

Endpoints Types

- HTTP/HTTPS
- Email/Email-JSON
- SMS
- AWS Lambda
- SQS queues
- Mobile push (Apple, Google, etc.)

How SNS Works

Publisher sends message → SNS Topic → Delivers to all subscribers

Message Filtering

Subscribers receive only messages matching specific attributes.
Example: Only receive error-level logs, not info-level.

Delivering Policies

- Retry logic for failed deliveries (e.g., exponential backoff)
- Dead-letter queues (DLQ) for undeliverable messages

Security & Access Control

- IAM policies control who can publish/subscribe.
- Topic policies for access permissions
- Encryption using AWS KMS

Monitoring & Logging

- CloudWatch metrics: Delivery success/failures
- Logging for auditing and troubleshooting

Pricing Overview

- Free tier includes 1 million publishes/month
- Charges for SMS/email and other delivery types
- SQS & Lambda delivery are free

Best Practices

- Use message filtering to reduce processing
- Enable encryption for sensitive data
- Use dead-letter queues for resiliency

Conclusion

- Amazon SNS helps build scalable, event-driven, loosely coupled architectures.
- Supports multiple delivery types, is cost-efficient, and integrates well with other AWS services.