SQS Exam Tips

- SQS is a distributed message queueing system

- SQS allows you to decouple the components of an application so that they are independent

- Pull-based not push-based

- Standard Queues (default): best effort ordering, message delivered at least once

- FIFO Queues (First In First Out): ordering strictly preserved, message delivered once, no duplicates (e.g. good for banking transactions which need to happen in strict order)

SQS Exam Tips

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- Visibility Timeout
  - Default 30 seconds - increase if your task takes >30 seconds to complete
  - Max 12 hours

- Short Polling - returned immediately even if no messages are in the queue

- Long Polling - polls the queue periodically and only returns a response when a message is in the queue or go the timeout is reached

SNS Vs SES Exam Tips

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- Remember that SES is for email only
- It can be used for incoming and outgoing mail
- It is not subscription based—you only need to know the email address

- SNS caters for various formats (SMS, SQS, HTTP, email)
- Push notifications only
- Pub/ sub model—consumers must subscribe to a topic
- You can fan out messages to large number of recipients, (e.g. multiple clients each with their own SQS queue)

Kinesis Exam Tips

- Know the difference between the three core services:

  - Kinesis Streams:
    - Video Streams - securely stream video from connected devices to AWS for analytics and machine learning

    - Data Streams - Build custom applications process data in real-time

  - Kinesis Firehose - capture, transform, load data streams into AWS data stores for near real-time analytics with BI tools

  - You can configure Lambda to subscribe to a Kinesis Stream and execute a function on your behalf when a new record is detected, before sending the processed data on to its final destination

Elastic Beanstalk Exam Tips

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- Deploys and scales your web applications including the web application server platform where required
- Supports widely used programming technologies - Java, PHP, Python, Ruby, Go, Docker, .NET, and Node.js
- As well as application server platforms like Tomcat, Passenger, Puma, and IIS
- Provisions the underlying resources for you
- Can fully manage the EC2 instances for you, or you can take full administrative control
- Updates, monitoring, metrics, and health checks all included

Updating Elastic Beanstalk Exam Tips

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- Remember the 4 different deployment approaches:
  - **All at Once**
    - Service interruption while you update the entire environment at once
    - To roll back, perform a further all at All at Once upgrade

  - **Rolling**
    - Reduced capacity during deployment
    - To roll back, perform a further rolling update

  - **Rolling with Additional Batch**
    - Maintains full capacity
    - To roll back, perform a further rolling update

  - **Immutable**
    - Preferred option for mission critical production systems
    - Maintains full capacity
    - To roll back, just delete the new instances and autoscaling group

Advanced Elastic Beanstalk Exam Tips

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- You can customize your Elastic Beanstalk environment by adding configuration files

- The files are written in YAML or JSON

- Files have a .config extension

- The .config files are saved to the .ebextensions folder

- Your .ebextensions folder must be located in the top level directory of your application source code bundle

RDS & Elastic Beanstalk Exam Tips

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- Two different options for launching your RDS instance:
  - **Launch within Elastic Beanstalk**
    - When you terminate the Elastic Beanstalk environment, the database will also be terminated
    - Quick and easy to add your database and get started
    - Suitable for Dev and Test environments only

  - **Launch outside of Elastic Beanstalk**
    - Additional configuration steps required - Security Group and Connection information
    - Suitable for Production environments, more flexibility
    - Allows connection from multiple environments, you can tear down the application stack without impacting the database