

1. Lambda

- Automatically scales with the number of incoming S3 events.
- Cost-effective as it only runs when triggered.

2. SQS (Simple Queue Service)

- Decouples the processing of CSV files and image processing tasks.
- Ensures reliable delivery of messages (image URLs) to the image processing service.
- Handles varying loads by buffering requests.

3. Auto-Scaling Groups

- Use with EC2 instances if more control over processing power is needed.
- Automatically adjusts the number of instances based on load.

4. DynamoDB or Aurora

- DynamoDB for high availability and automatic scaling for storing processing status.
- Aurora for a relational database with high performance and scalability.

5. Step Functions

- Orchestrates the workflow, handling retries and parallel processing efficiently.