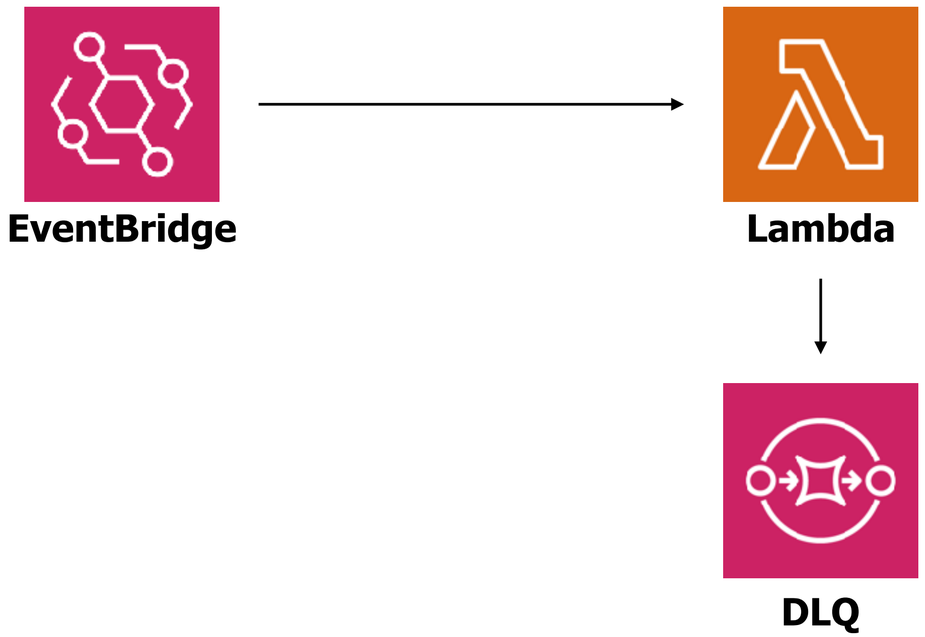

EventBridge
Lambda
DLQ

Lambda > Functions > workshop-yancui-dev-get-index > Add destination

Add destination

Destination configuration

Send invocation records to a destination when your function is invoked asynchronously, or if your function processes records from a stream.

Source

The type of invocation that maps to the destination.

- (•) Asynchronous invocation
- ( ) Stream invocation

Condition

The condition for using the destination.

- (•) On failure
- ( ) On success

Destination type

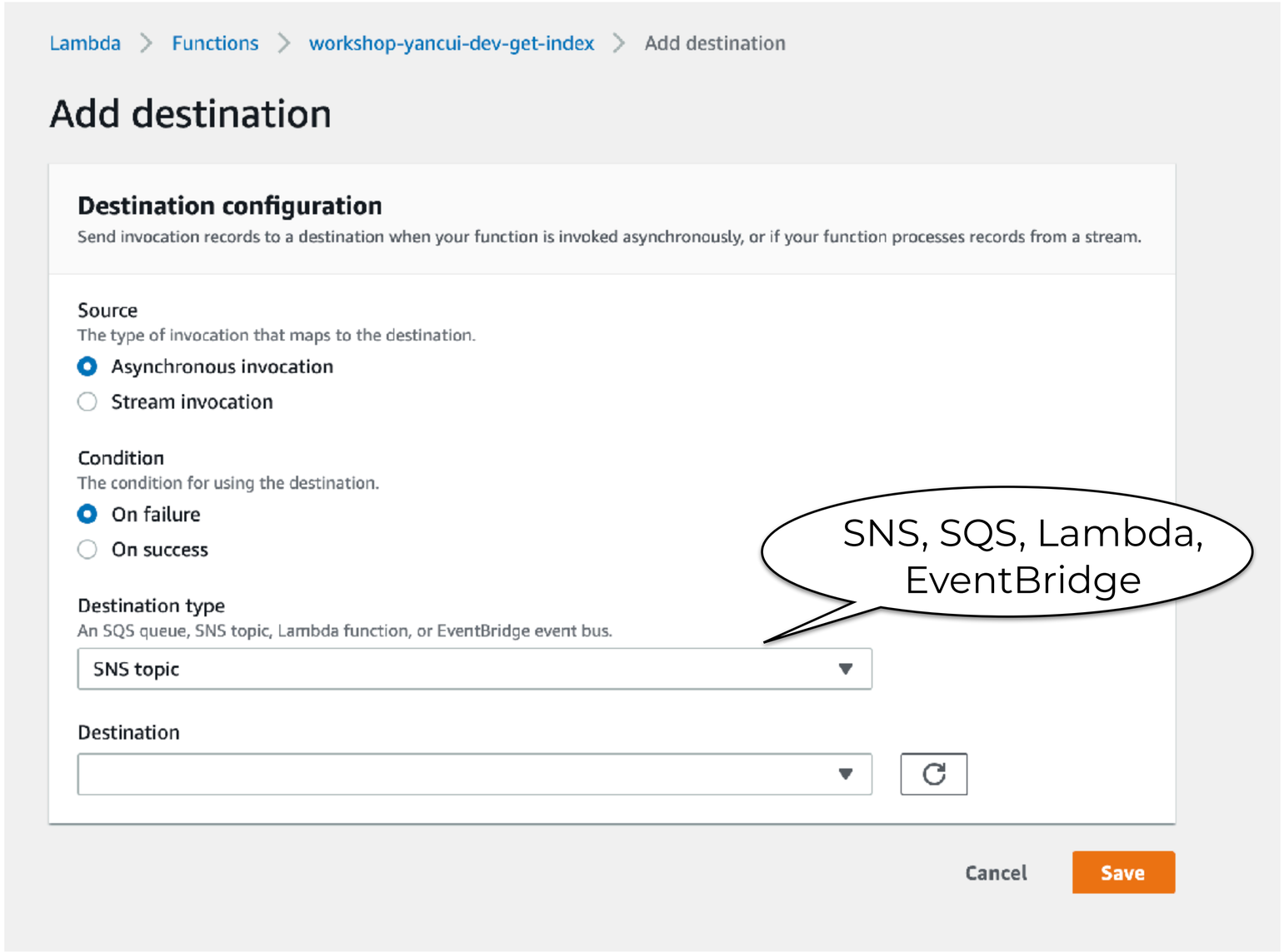
An SQS queue, SNS topic, Lambda function, or EventBridge event bus.

SNS topic ▼

Destination

▼ 

Cancel Save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Destination type
An SQS queue, SNS topic, Lambda function, or EventBridge event bus.
SNS topic
Destination
SNS, SQS, Lambda, EventBridge
Cancel
Save

```
{
  "version": "1.0",
  "timestamp": "2019-11-24T21:52:47.333Z",
  "requestContext": {
    "requestId": "8ea123e4-1db7-4aca-ad10-d9ca1234c1fd",
    "functionArn": "arn:aws:lambda:sa-east-1:123456678912:function:event-destinations:$LATEST",
    "condition": "RetriesExhausted",
    "approximateInvokeCount": 3
  },
  "requestPayload": {
    "Success": false
  },
  "responseContext": {
    "statusCode": 200,
    "executedVersion": "$LATEST",
    "functionError": "Handled"
  },
  "responsePayload": {
    "errorMessage": "Failure from event, Success = false, I am failing!",
    "errorType": "Error",
    "stackTrace": [
      "exports.handler (\/var\/task\/index.js:18:18)"
    ]
  }
}
```

```
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      "exports.handler (\/var\/task\/index.js:18:18)"
    ]
  }
}
```

Kinesis

events should be processed in realtime

(i.e. within a few seconds)

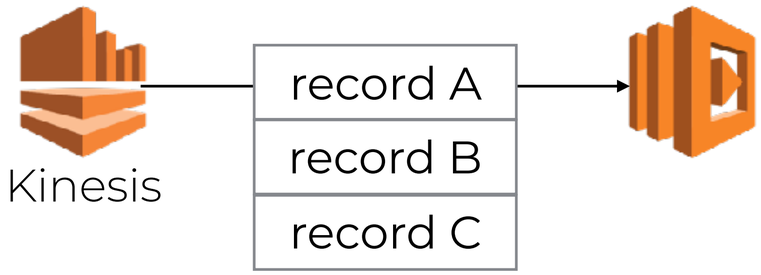
failed events should be retried, but the retries
should not violate the realtime constraint

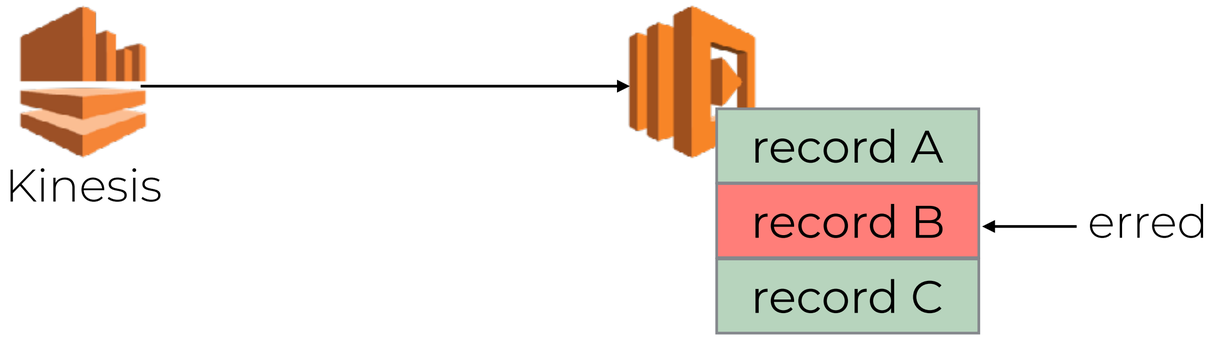
unprocessed events should be retrievable

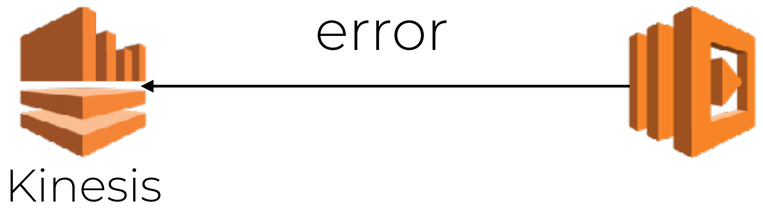
(i.e. available for human intervention, or root cause analysis)

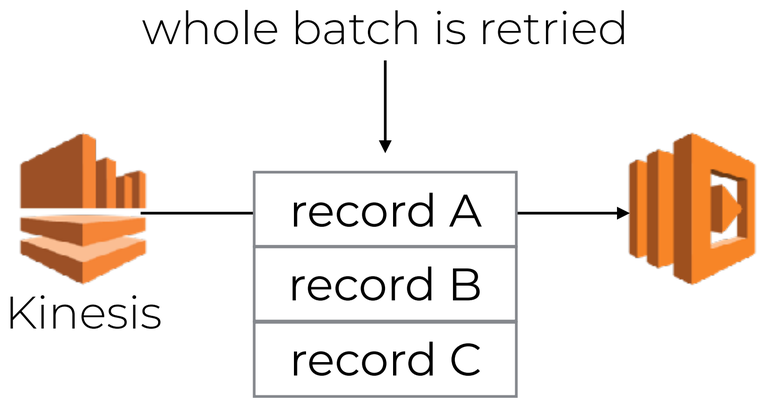
- **Stream-based event sources** – For stream-based event sources (Amazon Kinesis Data Streams and DynamoDB streams), AWS Lambda polls your stream and invokes your Lambda function. Therefore, if a Lambda function fails, AWS Lambda attempts to process the erring batch of records until the time the data expires, which can be up to seven days for Amazon Kinesis Data Streams. The exception is treated as blocking, and AWS Lambda will not read any new records from the stream until the failed batch of records either expires or processed successfully. This ensures that AWS Lambda processes the stream events in order.

http://amzn.to/2vs2lIg


record A
record B
record C
Kinesis


Kinesis
record A
record B
erred
record C


error
Kinesis


whole batch is retried
record A
record B
record C
Kinesis

you need to consider **Partial Failures** and
Idempotency when processing Kinesis
and DynamoDB streams with Lambda

failed events should be retried, but the retries
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you need to consider **Partial Failures** and
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and DynamoDB streams with Lambda

On-failure destination

Lambda discards records that are expired or fail all retry attempts. You can send discarded records from a stream to an Amazon SQS queue or an Amazon SNS topic.

Queue or topic ARN

Retry attempts

The maximum number of times to retry when the function returns an error.

10000

Maximum age of record

The maximum age of a record that Lambda sends to a function for processing. The age can be up to 604,800 seconds (7 days).

604800

Split batch on error

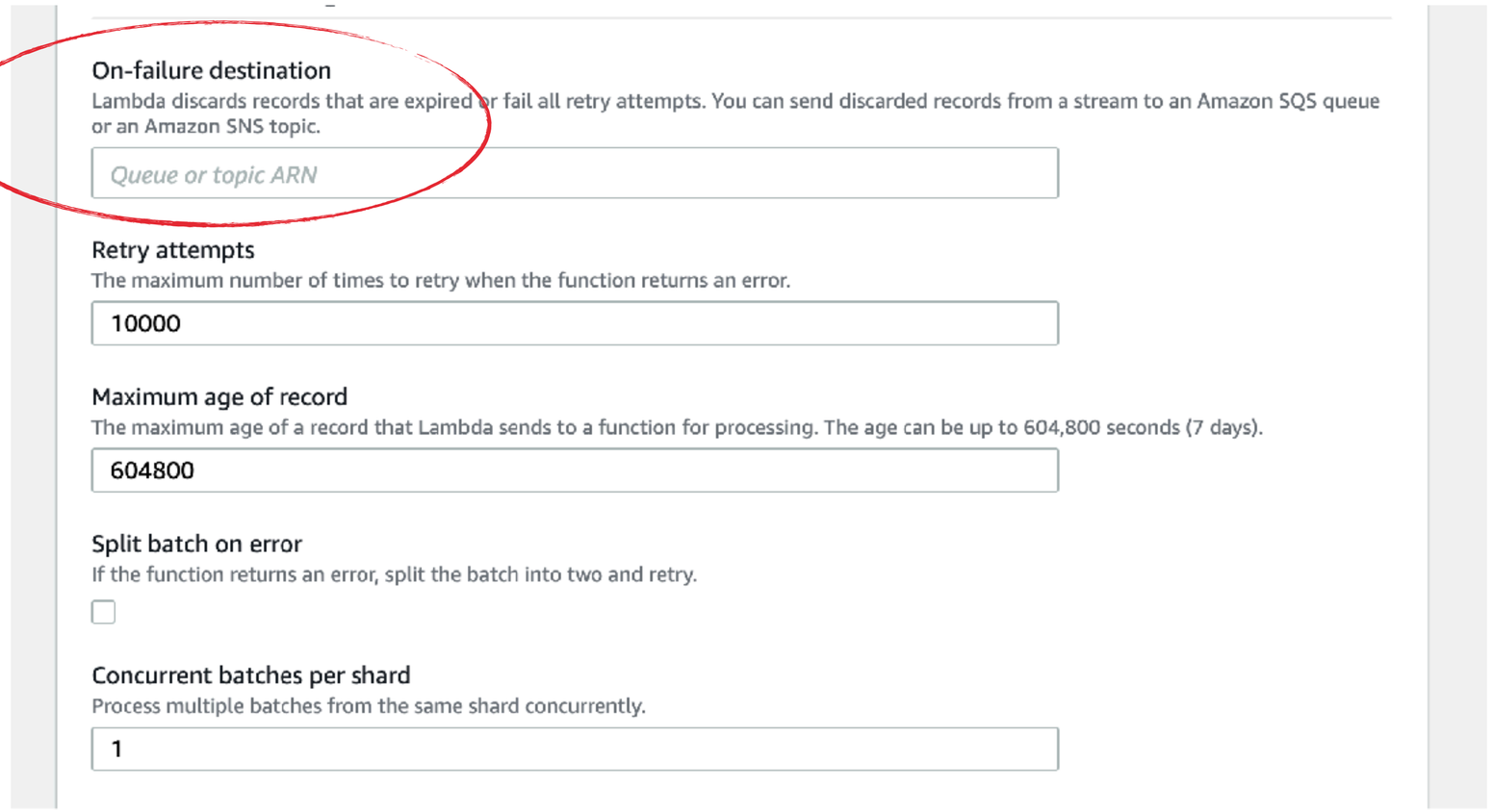
If the function returns an error, split the batch into two and retry.

☐

Concurrent batches per shard

Process multiple batches from the same shard concurrently.

1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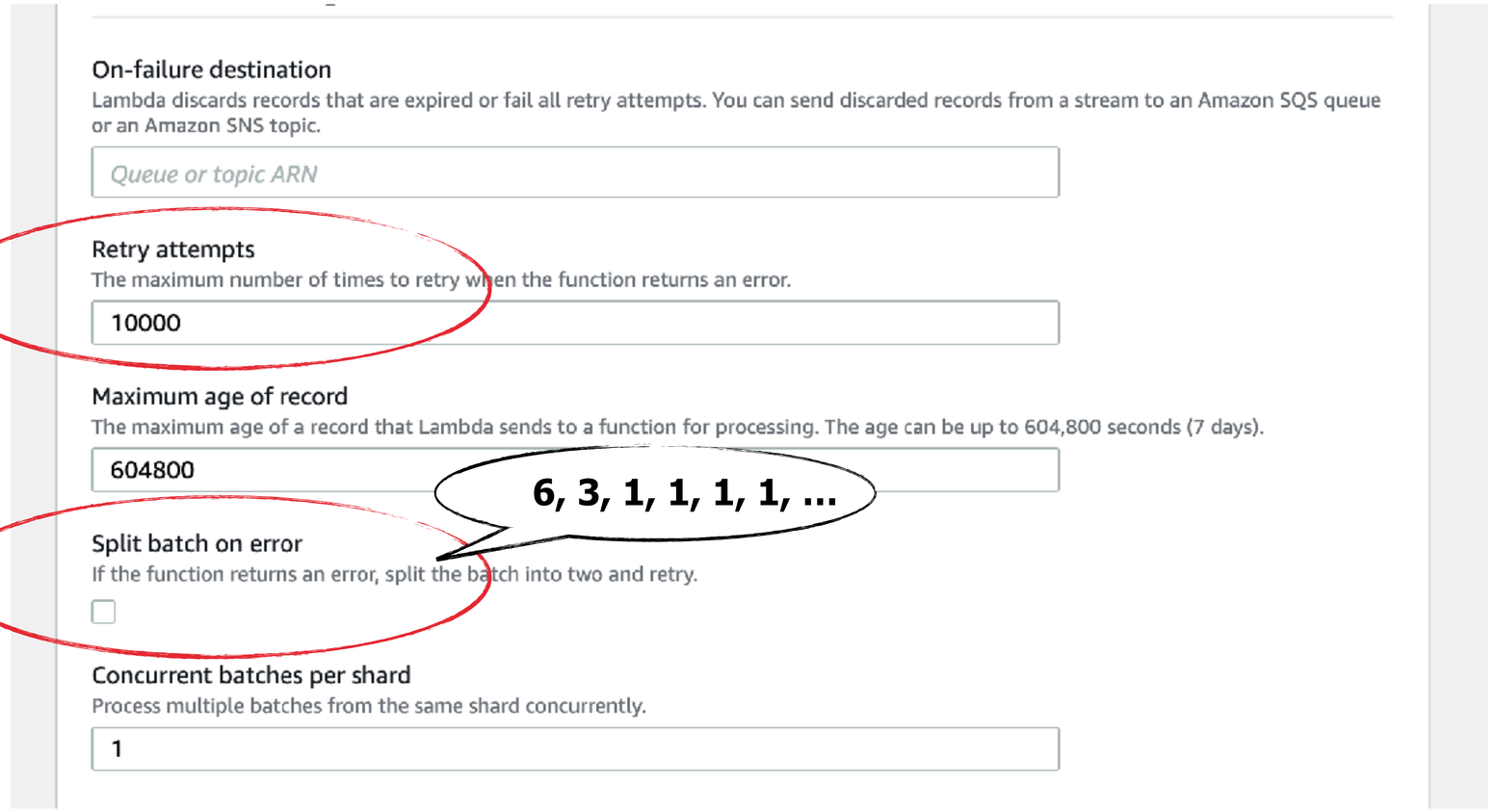
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6, 3, 1, 1, 1, 1, ...
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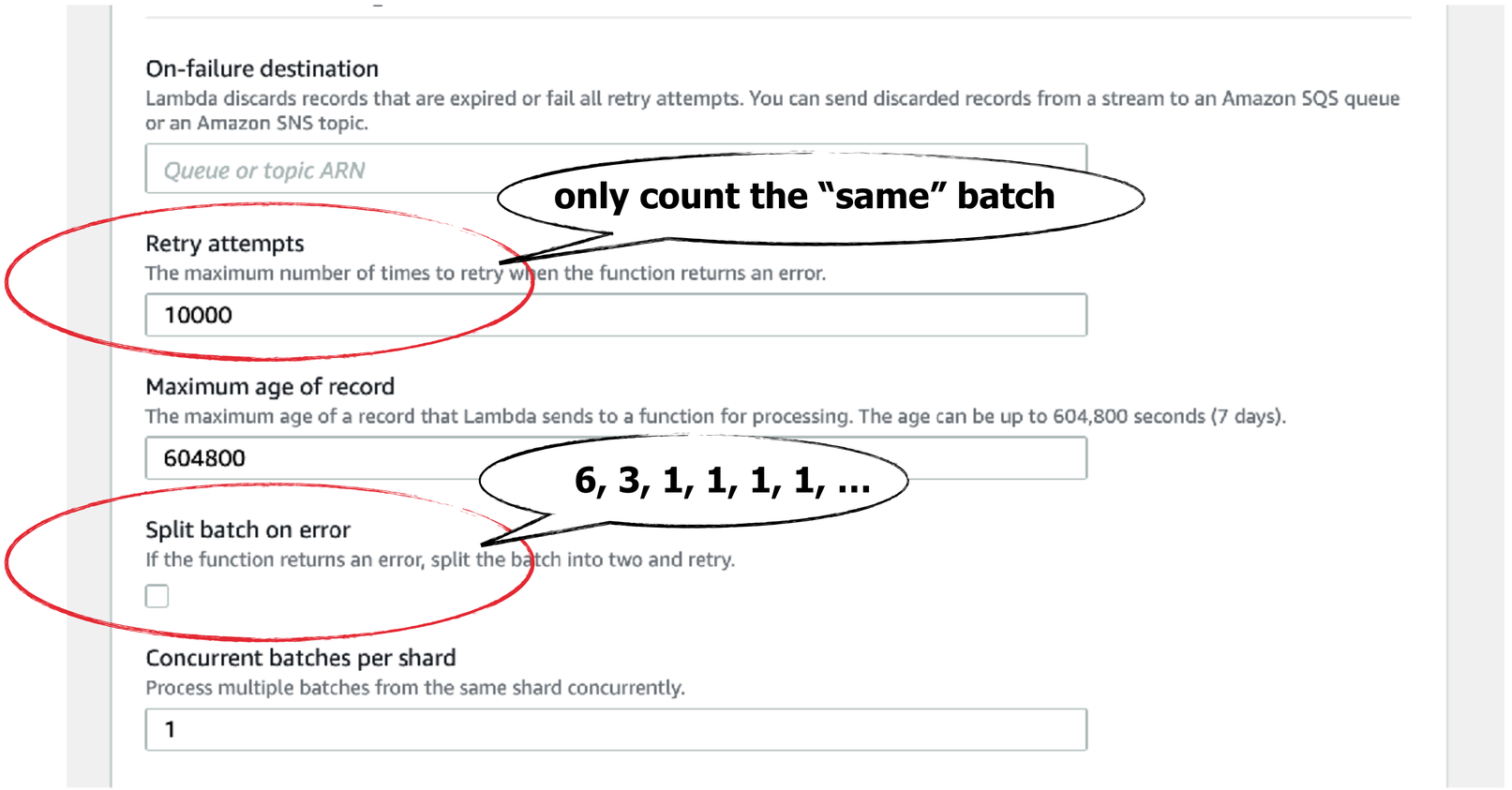
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only count the "same" batch
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1

```
{
  "Body": "{
    \"requestContext\":{
      \"requestId\":\"0cdf90e8-6290-4834-a46c-cffdd6277c4f\",
      \"functionArn\":\"arn:aws:lambda:us-east-1:374852340823:function:aws-sdk-example\",
      \"condition\":\"RetryAttemptsExhausted\",
      \"approximateInvokeCount\":11
    },
    \"responseContext\":{
      \"statusCode\":200,
      \"executedVersion\":
      \"$LATEST\",
      \"functionError\":
      \"Unhandled\"
    },
    \"version\":\"1.0\",
    \"timestamp\":\"2020-02-08T19:53:20.998Z\",
    \"KinesisBatchInfo\":{
      \"shardId\":\"shardId-000000000000\",
      \"startSequenceNumber\":\"496040450608013792680370773552622891186968974110626938 90\",
      \"endSequenceNumber\":\"496040450608013792680370773552622891186968974110626938 90\",
      \"approximateArrivalOfFirstRecord\":\"2020-02-08T19:47:05.582Z\",
      \"approximateArrivalOfLastRecord\":\"2020-02-08T19:47:05.582Z\",
      \"batchSize\":1,
      \"streamArn\":\"arn:aws:kinesis:us-east-1:374852340823:stream/yc-test\"
    }
  }"
}
```

```
{
  "Body": "{
    \"requestContext\":{
      \"requestId\":\"0cdf90e8-6290-4834-a46c-cffdd6277c4f\",
      \"functionArn\":\"arn:aws:lambda:us-east-1:374852340823:function:aws-sdk-example\",
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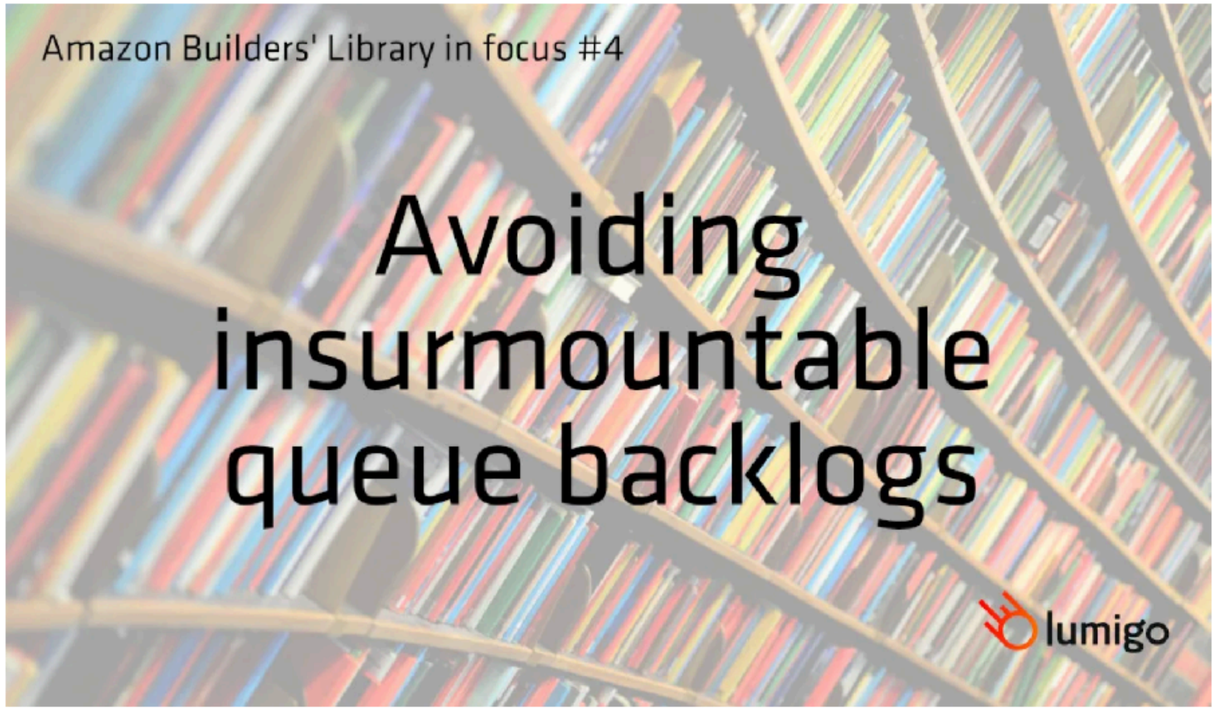
1

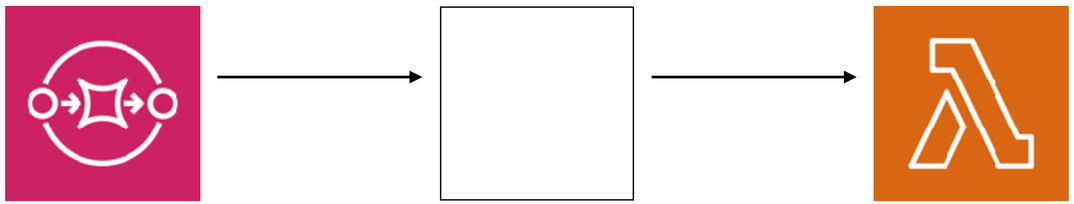
AMAZON BUILDERS' LIBRARY IN FOCUS #4: AVOIDING INSURMOUNTABLE QUEUE BACKLOGS

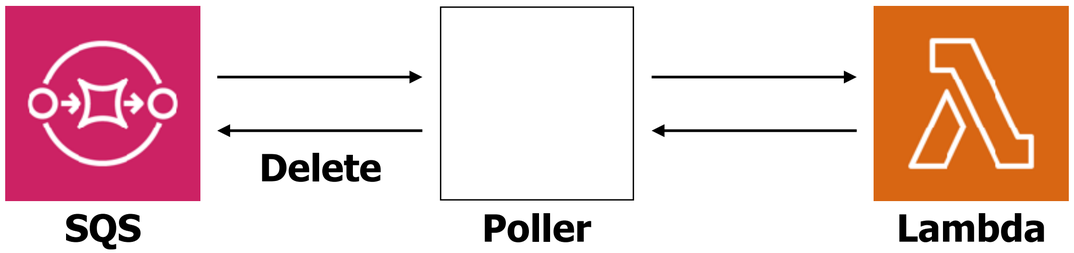


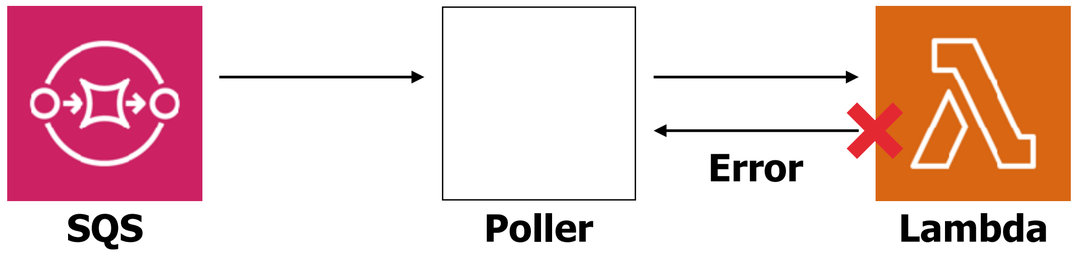
In the latest article in our series focusing on the **Amazon Builders' Library**, Yan Cui highlights the key insights from **Avoiding insurmountable queue backlogs** by AWS Principal Engineer David Yanacek.

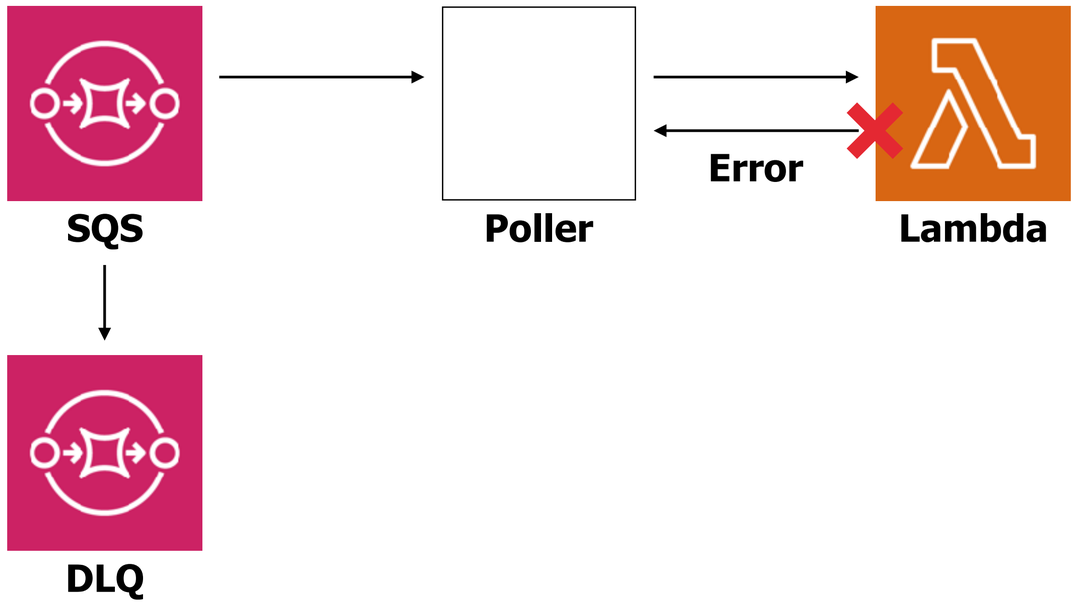
https://lumigo.io/blog/amazon-builders-library-in-focus-4-avoiding-insurmountable-queue-backlogs

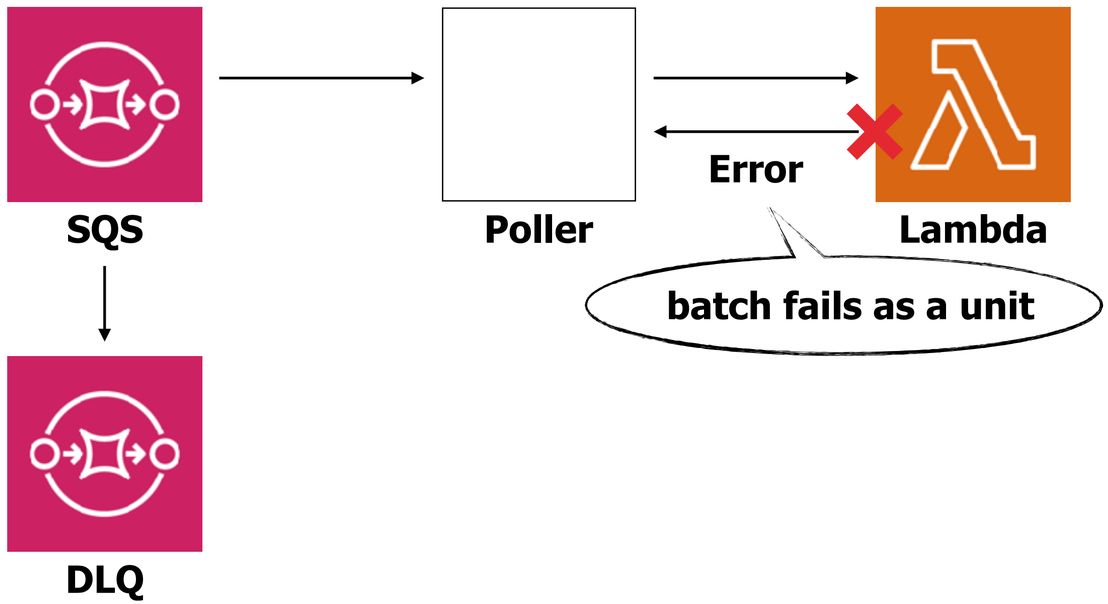

SQS
Lambda


SQS
Poller
Lambda


Delete
SQS
Poller
Lambda


SQS
Poller
Error
Lambda


SQS
Poller
Error
Lambda
DLQ


SQS
Poller
Error
Lambda
batch fails as a unit
DLQ

```
{
  "Type" : "AWS::Lambda::EventSourceMapping",
  "Properties" : {
      "BatchSize" : Integer,
      "BisectBatchOnFunctionError" : Boolean,
      "DestinationConfig" : DestinationConfig,
      "Enabled" : Boolean,
      "EventSourceArn" : String,
      "FilterCriteria" : Json,
      "FunctionName" : String,
      "FunctionResponseTypes" : [ String, ... ],
      "MaximumBatchingWindowInSeconds" : Integer,
      "MaximumRecordAgeInSeconds" : Integer,
      "MaximumRetryAttempts" : Integer,
      "ParallelizationFactor" : Integer,
      "Queues" : [ String, ... ],
      "SelfManagedEventSource" : SelfManagedEventSource,
      "SourceAccessConfigurations" : [ SourceAccessConfiguration, ... ],
      "StartingPosition" : String,
      "StartingPositionTimestamp" : Double,
      "Topics" : [ String, ... ],
      "TumblingWindowInSeconds" : Integer
    }
}
```

ReportBatchItemFailures

```
{
  "batchItemFailures": [
        {
            "itemIdentifier": "id2"
        },
        {
            "itemIdentifier": "id4"
        }
    ]
}
```