

Building a Simple Form Processor



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Module Overview



Review our services

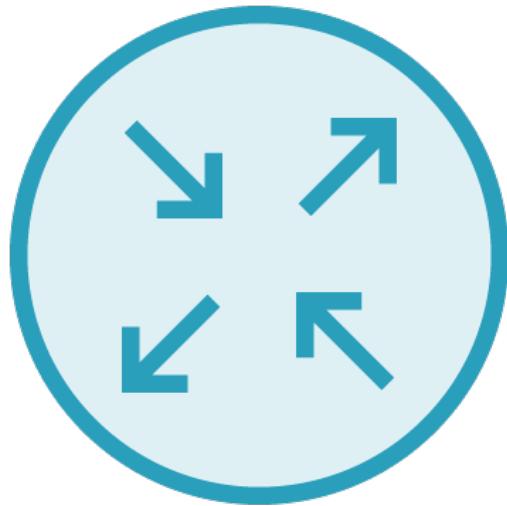
Demonstration

Review end to end application

Summary

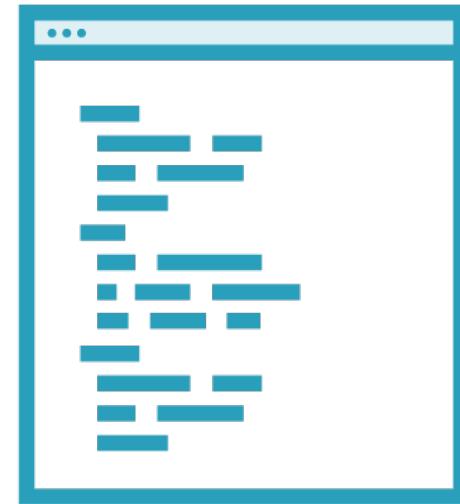


This Module's Supporting Amazon Services



API Gateway

Wrap our lambda form processing code with an API endpoint

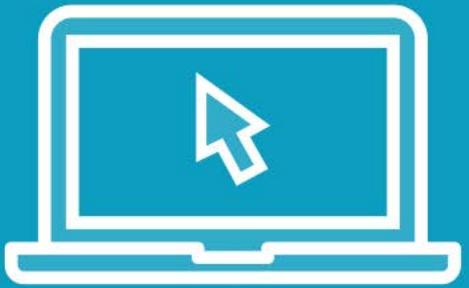


Lambda Function

Pass our content directly to an SQS queue



Demo



Build a python based lambda function

Update mocked API endpoint

Transform html form code into JSON

Test and validate



Handler to Post Form Data to SQS

```
import json
import boto3

def lambda_handler(event, context):
    sqs = boto3.resource('sns')
    fqueue = sqs.get_queue_by_name(QueueName='leadData')
    mes = json.dumps(event, indent=2)
    fqueue.send_message(MessageBody=mes)
    return "Submitted!"
```



AWS services

Find a service by name (for example, EC2, S3, Elastic Beanstalk).

Recently visited services

Lambda SQS IAM

CloudWatch

All services

Build a solution

Get started with simple wizards and automated workflows.

Launch a virtual machine
With EC2
~1 minute

Build a web app
With Elastic Beanstalk
~6 minutes

Deploy a serverless microservice
With Lambda, API Gateway
~2 minutes

Host a static website
With S3, CloudFront, Route 53
~5 minutes

Create a backend for your mobile app
With Mobile Hub
~5 minutes

Register a domain
With Route 53
~3 minutes

Featured next steps

 Manage your costs
Get real-time billing alerts based on your cost and usage budgets. [Start now](#)

 Get best practices
Use AWS Trusted Advisor for security, performance, cost and availability best practices. [Start now](#)

What's new?

Announcing AWS Batch

Now generally available, AWS Batch enables developers, scientists, and engineers to process large-scale batch jobs with ease. [Learn more](#)

Announcing Amazon Lightsail

See how this new service allows you to launch and manage your VPS with AWS for a low, predictable price. [Learn more](#)

[See all](#)

Secure <https://us-west-2.console.aws.amazon.com/console/home?region=us-west-2>

Services ▾ Resource Groups ▾

History

Search services

Group A-Z

Lambda	Compute	Migration	Security, Identity & Complia...	Mobile Services
SQS	EC2	Application Discovery Service	IAM	Mobile Hub
IAM	EC2 Container Service	DMS	Inspector	Cognito
Billing	Lightsail ↗	Server Migration	Certificate Manager	Device Farm
CloudWatch	Elastic Beanstalk	Snowball	Directory Service	Mobile Analytics
	Lambda		WAF & Shield	Pinpoint
	Batch		Compliance Reports	
		Developer Tools		Application Services
		CodeCommit		Step Functions
	Storage	CodeBuild		SWF
	S3	CodeDeploy		API Gateway
	EFS	CodePipeline		Elastic Transcoder
	Glacier	X-Ray		
	Storage Gateway			
		Management Tools		Messaging
		CloudWatch		SQS
	Database	CloudFormation		SNS
	RDS	CloudTrail		SES
	DynamoDB	Config		
	ElastiCache	OpsWorks	Artificial Intelligence	
	Redshift	Service Catalog	Lex	Business Productivity
			Polly	WorkDocs

Secure <https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions?display=list>

Services Resource Groups Tom Compagno Oregon Support

AWS Lambda

Dashboard Functions

Lambda > Functions

Create a Lambda function Actions

Filter

	Function name	Description	Runtime	Code size	Last Modified
<input type="radio"/>	processForm		Python 2.7	309 bytes	33 seconds ago
<input type="radio"/>	coordinateWork	pull from sqs and send data to services	Node.js 4.3	4.0 kB	17 minutes ago
<input type="radio"/>	sendEmail	send email to form email account	Python 2.7	567 bytes	14 days ago
<input type="radio"/>	processMessages		Python 2.7	759 bytes	2 months ago

Secure https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/create/select-blueprint

Services Resource Groups

Lambda > New function

Select blueprint

Configure triggers

Configure function

Review

Select blueprint

Blueprints are sample configurations of event sources and Lambda functions. Choose a blueprint that best aligns with your desired scenario and customize as needed, or skip this step if you want to author a Lambda function and configure an event source separately. Except where otherwise noted, blueprints are licensed under CC0.

Select runtime Filter Viewing 1-9 of 78

Blank Function Configure your function from scratch. Define the trigger and deploy your code by stepping through our wizard. custom	kinesis-firehose-syslog-to-json An Amazon Kinesis Firehose stream processor that converts input records from RFC3164 Syslog format to JSON. nodejs · kinesis-firehose Download	alexa-skill-kit-sdk-factskill Demonstrate a basic fact skill built with the ASK NodeJS SDK nodejs · alexa Download
kinesis-firehose-apachelog-to-... An Amazon Kinesis Firehose stream processor that converts input records from Apache Common Log format to python2.7 · kinesis-firehose Download	cloudfront-modify-response-h... Blueprint for modifying CloudFront response header implemented in NodeJS. nodejs · cloudfront · response header Download	s3-get-object-python An Amazon S3 trigger that retrieves metadata for the object that has been updated. python2.7 · s3 Download
config-rule-change-triggered	lex-book-trip-python	dynamodb-process-stream



Services

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Support

Lambda > New function

[Select blueprint](#)**Configure triggers**[Configure function](#)[Review](#)

Configure triggers

You can choose to add a trigger that will invoke your function.

[Remove](#)[Cancel](#)[Previous](#)[Next](#)



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Lambda > New function

Select blueprint

Configure triggers

Configure function

Review

Configure function

A Lambda function consists of the custom code you want to execute. [Learn more](#) about Lambda functions.

Name*

myFunctionName

Description

Runtime*

Node.js 4.3

Lambda function code

Provide the code for your function. Use the editor if your code does not require custom libraries (other than the aws-sdk). If you need custom libraries, you can upload your code and libraries as a .ZIP file. [Learn more](#) about deploying Lambda functions.

Code entry type

Edit code inline

```
1 - exports.handler = (event, context, callback) => {
2     // TODO implement
3     callback(null, 'Hello from Lambda');
4 };
```

Configure function

[Review](#)

Name*

queueFormData

Description

take form data and place into sqs queue

Runtime*

Python 2.7

Lambda function code

Provide the code for your function. Use the editor if your code does not require custom libraries (other than boto3). If you need custom libraries, you can upload your code and libraries as a .ZIP file.

Code entry type

Edit code inline

```
1 import json
2 import boto3
3
4
5 def lambda_handler(event, context):
6
7     sqs = boto3.resource('sns')
8
9     fqueue = sqs.get_queue_by_name(QueueName='formData')
10    mes = json.dumps(event, indent=2)
11    fqueue.send_message(MessageBody=mes)
12
13    return mes|
```



You can define Environment Variables as key-value pairs that are accessible from your function code. These are useful to store configuration settings without the need to change function code. [Learn more](#). For storing sensitive information, we recommend encrypting values using KMS and the console's encryption helpers.

Enable encryption helpers

Environment variables

Key

Value



Lambda function handler and role

Handler*

Role*

Existing role*

Advanced settings

* These fields are required.

Cancel

Previous

Next

SQS Management Console IAM Management Console Lambda Management Console

Secure https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/create/review

Services Resource Groups Tom Compagno Oregon Support

Lambda > New function

Select blueprint Configure triggers Configure function Review

Review

Please review your Lambda function details. You can go back to edit changes for each section. When you are ready, click **Create function** to complete the setup process.

Lambda function

Name queueFormData

Description take form data and place into sqs queue

Runtime Python 2.7

Environment variables

Handler lambda_function.lambda_handler

Existing role* service-role/lambdaExecutionRole

DLQ Resource

Runtime Python 2.7

Environment variables

Handler lambda_function.lambda_handler

Existing role* service-role/lambdaExecutionRole

DLQ Resource

Memory (MB) 128

Timeout 3

VPC No VPC

KMS key (default) aws/lambda

Cancel

Previous

Export function

Create function

Secure https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions/queueFormData?tab=code

Services Resource Groups Tom Compagno Oregon Support

AWS Lambda

Lambda > Functions > queueFormData ARN - arn:aws:lambda:us-west-2:█████████████████████ function:queueFormData

Qualifiers Test Actions

Congratulations! Your Lambda function "queueFormData" has been successfully created. You can now click on the "Test" button to input a test event and test your function.

Code Configuration Triggers Monitoring ?

Code entry type Edit code inline

```
1 import json
2 import boto3
3
4
5 def lambda_handler(event, context):
6
7     sqs = boto3.resource('sns')
8
9     fqueue = sqs.get_queue_by_name(QueueName='formData')
10    mes = json.dumps(event, indent=2)
11    fqueue.send_message(MessageBody=mes)
12
13    return mes
```

Secure <https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions/queueFormData?tab=code>

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EC2 Container Service	DMS	Inspector	Cognito
Lightsail ↗	Server Migration	Certificate Manager	Device Farm
Elastic Beanstalk	Snowball	Directory Service	Mobile Analytics
Lambda		WAF & Shield	Pinpoint
Batch		Compliance Reports	
Storage	Developer Tools	Analytics	Application Services
S3	CodeCommit	Athena	Step Functions
EFS	CodeBuild	EMR	SWF
Glacier	CodeDeploy	CloudSearch	API Gateway
Storage Gateway	CodePipeline	Elasticsearch Service	Elastic Transcoder
	X-Ray	Kinesis	
Database	Management Tools	Data Pipeline	Messaging
RDS	CloudWatch	QuickSight ↗	SQS
DynamoDB	CloudFormation		SNS
ElastiCache	CloudTrail		SES
Redshift	Config		
	OpsWorks		
	Service Catalog		
Artificial Intelligence			Business Productivity
			WorkDocs



Services

Resource Groups



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Support



APIs

Show all hints



APIs

leads-distribution

pl-test

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Create API

leads-distribution

No description.

pl-test

No description.

Services ▾ Resource Groups ▾

Amazon API Gateway APIs > leads-distribution (osnwyloac5) > Resources > / (pwatlmvn5k) Show all hints ?

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/ Methods

No methods defined for the resource.

- /
- /process-form
 - GET
 - POST
- /send-email
 - POST
- /sfdc-lead
 - POST
- /slack-support
 - POST

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

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Amazon API Gateway APIs > leads-distribution (osnwyloac5) > Resources > /process-form (3humgt) > POST Show all hints ?

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/process-form - POST - Method Execution

Client

Method Request TEST

Auth: NONE
ARN: arn:aws:execute-api:us-west-2:854337666006:osnwyloac5/*/process-form

Integration Request Type: MOCK

Mock Endpoint

Method Response

HTTP Status: 200
Models: application/json => Empty

Integration Response

HTTP status pattern: -
Output passthrough: Yes

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Method Execution /process-form - POST - Integration Request

Provide information about the target backend that this method will call and whether the incoming request data should be modified.

Integration type

- Lambda Function i
- HTTP i
- Mock i
- AWS Service i

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◀ Method Execution /process-form - POST - Integration Request

Provide information about the target backend that this method will call and whether the incoming request data should be modified.

Integration type Lambda Function [i](#)

HTTP [i](#)

Mock [i](#)

AWS Service [i](#)

Use Lambda Proxy integration [i](#)

Lambda Region

Save

▶ Body Mapping Templates [i](#)

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Provide information about the target backend that this method will call and whether the incoming request data should be modified.

Integration type Lambda Function [i](#)

HTTP [i](#)

Mock [i](#)

AWS Service [i](#)

Use Lambda Proxy integration [i](#)

Lambda Region [✓](#)

- us-east-1
- us-east-2
- us-west-1
- us-west-2
- eu-west-1
- eu-central-1
- ap-northeast-1
- ap-northeast-2
- ap-southeast-1
- ap-southeast-2
- eu-west-2

Body Mapping Templates

Save

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

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HTTP [i](#)

Mock [i](#)

AWS Service [i](#)

Use Lambda Proxy integration [i](#)

Lambda Region us-west-2

Lambda Function myLambdaFunctionName [i](#)

Save

Body Mapping Templates

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

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Provide information about the target backend that this method will call and whether the incoming request data should be modified.

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HTTP [i](#)

Mock [i](#)

AWS Service [i](#)

Use Lambda Proxy integration [i](#)

Lambda Region us-west-2

Lambda Function [i](#)

queueFormData

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Body Mapping Templates

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

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Amazon API Gateway APIs > leads-distribution (osnwyloac5) > Resources > /process-form (3humgt) > POST Show all hints ?

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Provide information about the target backend that this method will call and whether the incoming request data should be modified.

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Lambda Region us-west-2

Lambda Function queueFormData [i](#)

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Amazon API Gateway APIs > leads-distribution Resources

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Switch to Lambda integration

Are you sure you want to switch to a Lambda integration?

⚠ You will not be able to retrieve the previous execution configuration.

Cancel OK

AWS Service

Use Lambda Proxy integration

Lambda Region us-west-2

Lambda Function queueFormData

Save

Body Mapping Templates

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

Services Resource Groups

Amazon API Gateway APIs > leads-distribution Resources

You are about to give API Gateway permission to invoke your Lambda function:
arn:aws:lambda:us-west-2:854337666006:function:queueFormData

Cancel OK

leads-distribution

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Show all hints ?

Add Permission to Lambda Function

tion Request

ether the incoming request data should be modified.

Use Lambda Proxy integration i

Lambda Region us-west-2

Lambda Function queueFormData i

Save

Body Mapping Templates

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Provide information about the target backend that this method will call and whether the incoming request data should be modified.

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Credentials cache Do not add caller credentials to cache key [e](#)

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Lambda Region us-west-2

Lambda Function queueFormData

Invoke with caller credentials ⓘ

Credentials cache Do not add caller credentials to cache key

Body Mapping Templates

Request body passthrough When no template matches the request Content-Type header ⓘ
 When there are no templates defined (recommended) ⓘ
 Never ⓘ

Content-Type

No mapping templates defined. The request body will be passed through to the integration endpoint

+ Add mapping template

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Use Lambda Proxy integration ⓘ

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Lambda Function queueFormData

Invoke with caller credentials ⓘ

Credentials cache Do not add caller credentials to cache key

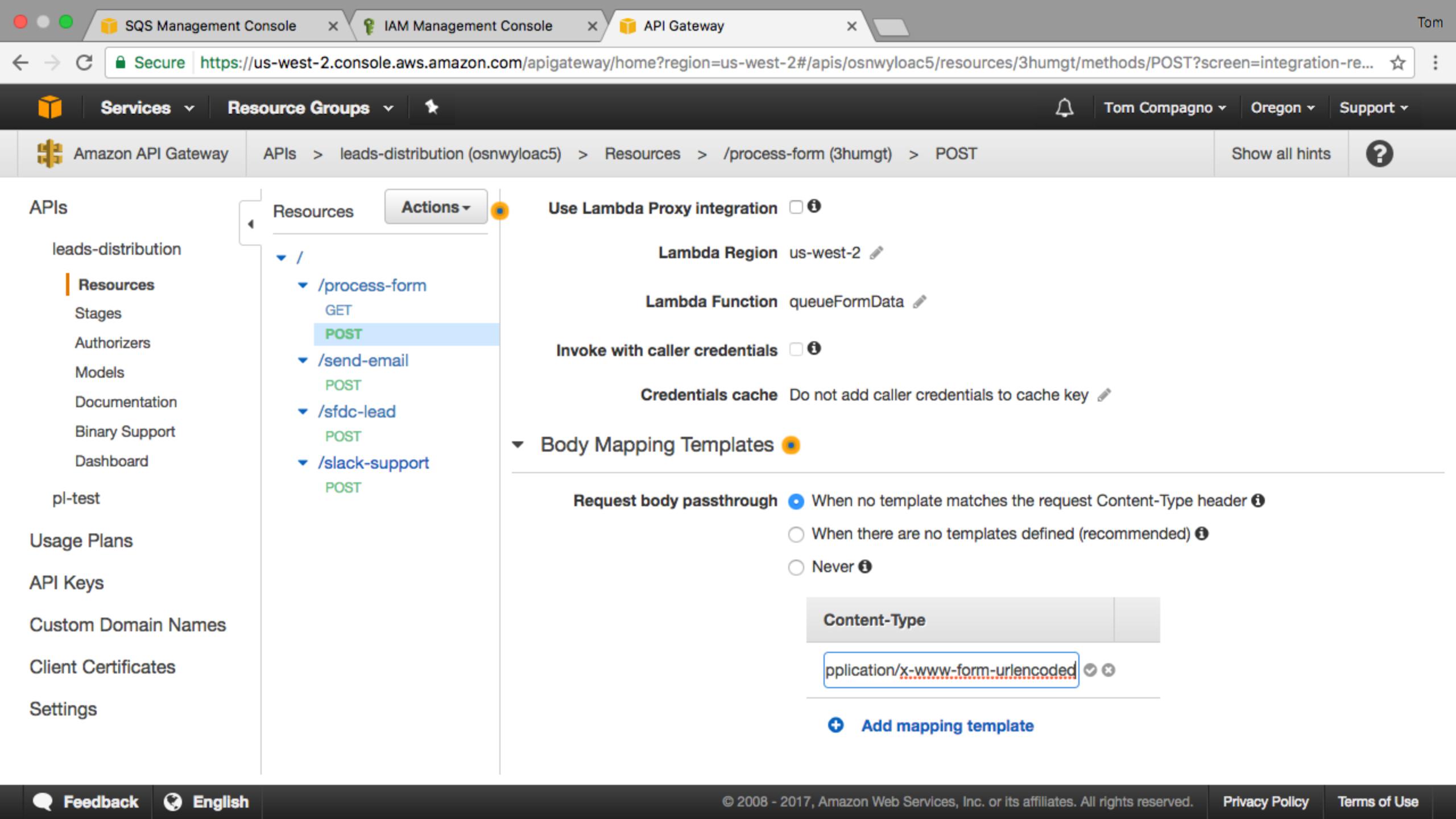
Body Mapping Templates

Request body passthrough When no template matches the request Content-Type header ⓘ
 When there are no templates defined (recommended) ⓘ
 Never ⓘ

Content-Type

application/x-www-form-urlencoded

+ Add mapping template



Secure <https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST?screen=integration-re...>

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leads-distribution Resources Stages Authorizers Models Documentation Binary Support Dashboard pl-test Usage Plans API Keys Custom Domain Names Client Certificates Settings

Change passthrough behavior

A Your current passthrough behavior will pass all request payloads directly to the endpoint without transformation, unless there is a match for the incoming Content-Type. Do you want to secure this integration to only allow requests that match one of your defined Content-Types?

No, use current settings Yes, secure this integration

Body Mapping Templates

Request body passthrough When no template matches the request Content-Type header i A

When there are no templates defined (recommended) i

Never i

Content-Type

application/x-www-form-urlencoded

+ Add mapping template

SQS Management Console × IAM Management Console × API Gateway × Tom

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST?screen=integration-re... ☆ :

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/

- /process-form
 - GET
 - POST**
- /send-email
 - POST
- /sfdc-lead
 - POST
- /slack-support
 - POST

When there are no templates defined (recommended) ⓘ

Never ⓘ

Content-Type

application/x-www-form-urlencoded

+ Add mapping template

application/x-www-form

Generate template:

1

```
#if ($context.httpMethod ==  
"POST")  
  
#set($rawAPIData =  
$input.path('$'))
```

◀ If it's a post method

◀ Load all data into this variable
for later



```
#set($countAmpersands = $rawAPIData.length() -  
$rawAPIData.replace("&", "").length())
```

Count Our Input Fields

First_name=Tom&last_name=Compagno



Loop and Track All Key Value Pairs

```
#set($tokenisedAmpersand = $rawAPIData.split("&"))
#set($tokenisedEquals = [])
#foreach( $kvPair in $tokenisedAmpersand )
    #set($countEquals = $kvPair.length() -
        $kvPair.replace("=", "").length())
    #if ($countEquals == 1)
        #set($kvTokenised = $kvPair.split("="))
        #if ($kvTokenised[0].length() > 0)
            ## we found a valid key value pair. add it
            #set($devNull = $tokenisedEquals.add($kvPair))
    #end
#end
#end
```



Convert Pairs to JSON

```
{  
#foreach( $kvPair in $tokenisedEquals )  
## finally we output the JSON  
#set($kvTokenised = $kvPair.split("="))  
"$util.urlDecode($kvTokenised[0])" :  
#if($kvTokenised[1].length() > 0)  
"$util.urlDecode($kvTokenised[1])"  
#{else} ""  
#end#if( $foreach.hasNext ),#end  
#end  
}
```



Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

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Request body passthrough

When there are no templates defined (recommended) i

When no template matches the request Content-Type header i

Never i

Content-Type

application/x-www-form-urlencoded

+ Add mapping template

application/x-www-form

Generate template:

```
1 #if ($context.httpMethod == "POST")
2 #set($rawAPIData = $input.path('$'))
3 #end
4
5 #set($countAmpersands = $rawAPIData.length() -
   $rawAPIData.replace("&", "").length())
6
7 #if ($countAmpersands == 0)
8 #set($rawpostData = $rawAPIData + "&")
9 #end
10
```

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

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Actions ▾

application/x-www-form-urlencoded

+ Add mapping template

application/x-www-form

Generate template:

```
1 #if ($context.httpMethod == "POST")
2 #set($rawAPIData = $input.path('$'))
3 #end
4
5 #set($countAmpersands = $rawAPIData.length() -
6     $rawAPIData.replace("&", "").length())
7
8 #if ($countAmpersands == 0)
9 #set($rawpostData = $rawAPIData + "&")
10 #end
11 #set($tokenisedAmpersand = $rawAPIData.split("&"))
12
13 #set($tokenisedEquals = [])
14
15 #foreach( $kvPair in $tokenisedAmpersand )
16     #set($countEquals = $kvPair.length() - $kvPair
17         .replace("=", "").length())
18     #if ($countEquals == 1)
```

Cancel Save

Secure https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/resources/3humgt/methods/POST

Services Resource Groups

Amazon API Gateway APIs > leads-distribution (osnwyloac5) > Resources > /process-form (3humgt) > POST Show all hints ?

APIs

leads-distribution

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- Stages
- Authorizers
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pl-test

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METHOD ACTIONS

- Edit Method Documentation
- Delete Method

RESOURCE ACTIONS

- Create Method
- Create Resource
- Enable CORS
- Edit Resource Documentation
- Delete Resource

API ACTIONS

- Deploy API
- Import API
- Edit API Documentation
- Delete API

application/x-www-form-urlencoded

+ Add mapping template

x-www-form

title:

value:

We found a valid key value pair. add it to the list.

`($devNull = $tokenisedEquals.add($kvPair))`

`foreach ($kvPair in $tokenisedEquals)`
`nally we output the JSON for this pair and`
`ppend a comma if this isn't the last pair`
`$kvTokenised = $kvPair.split("=")`
`.urlDecode($kvTokenised[0])" : #if`
`kvTokenised[1].length() > 0)"$util.urlDecode`
`kvTokenised[1]"#{else}"#end#if($foreach`
`asNext),#end`

31 #end
32 }
33

Cancel Save



Services

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Support



Amazon API Gateway

APIs

> leads-distribution

Resources

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Deploy API

Choose a stage where your API will be deployed. For example, a test version of your API could be deployed to a stage named beta.

Deployment stage

Deployment description

Cancel

Deploy

```
25
26  {
27  #foreach( $kvPair in $tokenisedEquals )
28    ## finally we output the JSON for this pair and
29    ## append a comma if this isn't the last pair
30    #set($kvTokenised = $kvPair.split("="))
31    "$util.urlDecode($kvTokenised[0])" : #if
32      ($kvTokenised[1].length() > 0)"$util.urlDecode
33      ($kvTokenised[1])#{else}"#end#if( $foreach
34      .hasNext ),#end
35  #end
36 }
37 }
```

Cancel

Save



Services

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Amazon API Gateway

APIs

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Settings

Deploy API

Choose a stage where your API will be deployed. For example, a test version of your API could be deployed to a stage named beta.

Deployment stage

dev

Deployment description

deploy all endpoints

Cancel

Deploy

```
25
26  {
27  #foreach( $kvPair in $tokenisedEquals )
28    ## finally we output the JSON for this pair and
29    ## append a comma if this isn't the last pair
30    #set($kvTokenised = $kvPair.split("="))
31    "$util.urlDecode($kvTokenised[0])" : #if
32      ($kvTokenised[1].length() > 0)"$util.urlDecode
33      ($kvTokenised[1])#{else}"#end#if( $foreach
34      .hasNext ),#end
35  #end
36 }
37 }
```

Cancel

Save

Services ▾ Resource Groups ▾

Amazon API Gateway APIs > leads-distribution (osnwyloac5) > Stages > dev Show all hints ?

APIs

leads-distribution

Resources

Stages

Authorizers

Models

Documentation

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Usage Plans

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Client Certificates

Settings

Stages Create

dev

dev Stage Editor

Invoke URL: https://[REDACTED]te-api.us-west-2.amazonaws.com/dev

Settings Stage Variables SDK Generation Export Deployment History Documentation History

Configure the metering and caching settings for the **dev** stage.

Cache Settings

Enable API cache

CloudWatch Settings

Enable CloudWatch Logs ⓘ

Enable Detailed CloudWatch Metrics ⓘ

Default Method Throttling

Choose the default throttling level for the methods in this stage. Each method in this stage will respect these rate and burst settings. Your current account level throttling rate is **1000** requests per second with a burst of **2000** requests. ⓘ

Secure <https://us-west-2.console.aws.amazon.com/apigateway/home?region=us-west-2#/apis/osnwyloac5/stages/dev>

Services ▾ Resource Groups ▾ ⚙ Tom Compagno ▾ Oregon ▾ Support ▾

History

Search services

Group A-Z

API Gateway	S3	Lambda	IAM	Console Home	SQS
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Compute EC2 EC2 Container Service Lightsail ↗ Elastic Beanstalk Lambda Batch </div> <div style="text-align: center;">  Migration Application Discovery Service DMS Server Migration Snowball </div> <div style="text-align: center;">  Security, Identity & Complia... IAM Inspector Certificate Manager Directory Service WAF & Shield Compliance Reports </div> <div style="text-align: center;">  Mobile Services Mobile Hub Cognito Device Farm Mobile Analytics Pinpoint </div> </div>					
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Storage S3 EFS Glacier Storage Gateway </div> <div style="text-align: center;">  Developer Tools CodeCommit CodeBuild CodeDeploy CodePipeline X-Ray </div> <div style="text-align: center;">  Analytics Athena EMR CloudSearch Elasticsearch Service Kinesis Data Pipeline QuickSight ↗ </div> <div style="text-align: center;">  Application Services Step Functions SWF API Gateway Elastic Transcoder </div> </div>					
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Database RDS DynamoDB ElastiCache Redshift </div> <div style="text-align: center;">  Management Tools CloudWatch CloudFormation CloudTrail Config OpsWorks </div> <div style="text-align: center;">  Artificial Intelligence Lex </div> <div style="text-align: center;">  Messaging SQS SNS SES </div> </div>					

Feedback English

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Services

Resource Groups



Tom Compagno

Global

Support

Create Bucket

Actions

None

Properties

Transfers



All Buckets (3)

Name

elasticbeanstalk-us-west

lead-distribution

pl-test-form



Announcement: Object Tagging and new Storage Management features available in new console

[Opt In](#) to try object tagging and storage management.



Announcement: Load data up to 300% faster with S3 Transfer Acceleration.

[Test it here.](#)

Upload Create Folder Actions ▾

Search by prefix

None

Properties

Transfers



All Buckets / lead-distribution

	Name	Storage Class	Size	Last Modified
<input type="checkbox"/>	TestForm.html	Standard	2.6 KB	Sun Mar 12 15:57:35 GMT-600 2017

Upload **Create Folder** **Actions ▾** **Search by prefix** **None** **Properties** **Transfers**

All Buckets / lead-distributi

	Name	Storage Class	Size	Last Modified
	TestForm.html	Standard	2.6 KB	Sun Mar 12 15:57:35 GMT-600 2017

Open
Download
Create Folder...
Upload
Make Public
Rename
Delete
Initiate Restore
Cut
Copy
Paste
Properties

First Name:

Last Name:

Company:

Phone:

Email:

Send

Secure https://s3-us-west-2.amazonaws.com/lead-distribution/TestForm.html?X-Amz-Date=20170312T220712Z&X-Amz-Expires=300&X-Amz-Algorithm=AWS4-H...

First Name:

TomForm

Last Name:

CompagnoForm

Company:

CompanyForm

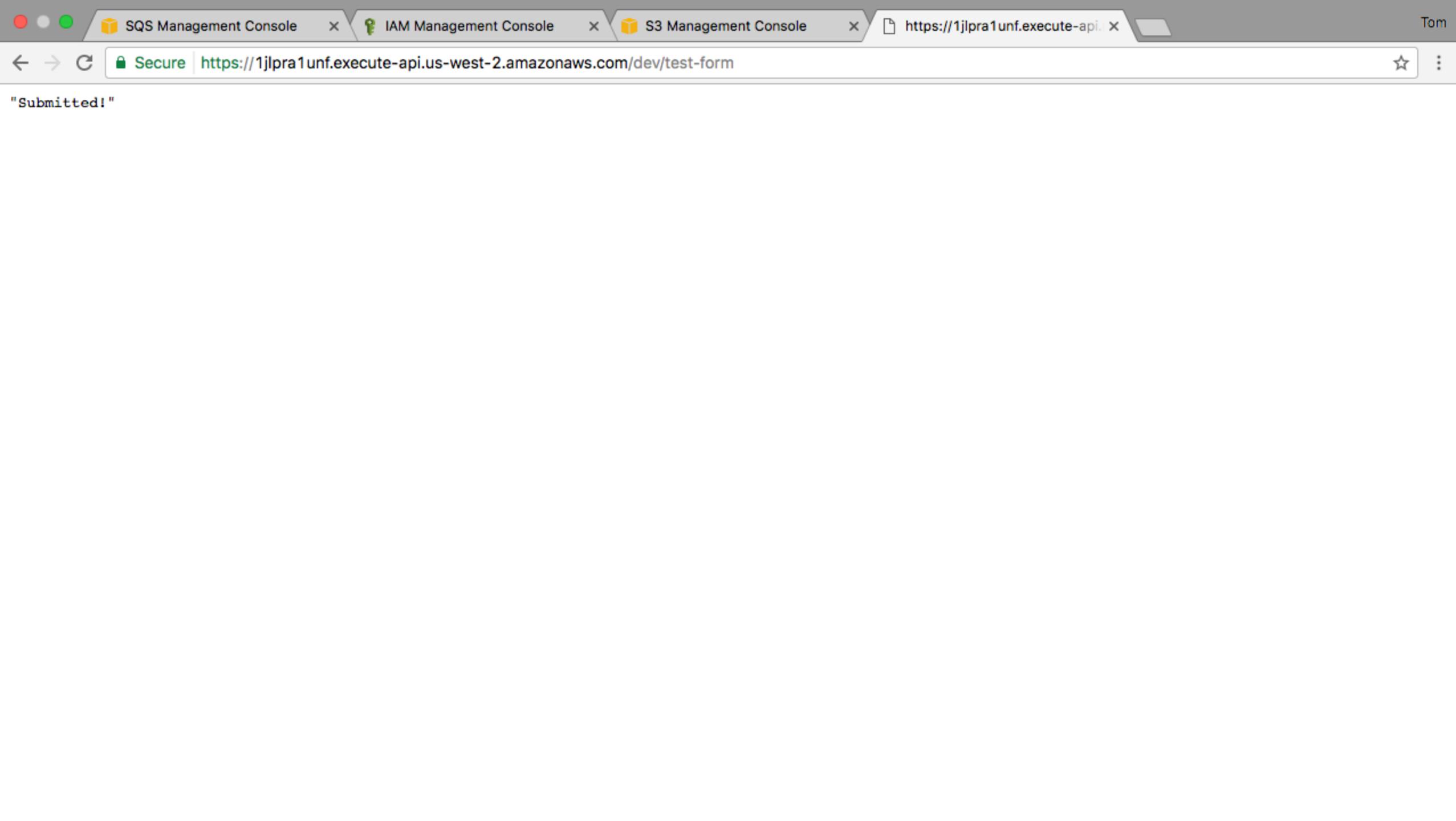
Phone:

8015558888

Email:

tom.compagno@gmail.com

Send



"Submitted!"

Secure https://console.aws.amazon.com/sqs/home?region=us-west-2#queue-browser:selected=https://sq.us-west-2.amazonaws.com/854337666006/formData;p... ☆ :

Services Resource Groups ★

Create New Queue Queue Actions

Filter by Prefix: Enter Text... X 1 to 2 of 2 items

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
formData	Standard Queue	N/A	0	0	2017-01-18 14:17:37 GMT-07:00
leadData	Standard Queue	N/A	0	0	2017-03-12 10:53:01 GMT-06:00

1 SQS Queue selected

Details Permissions Redrive Policy Monitoring

Name: formData	Default Visibility Timeout 30 seconds
URL: https://sq.us-west-2.amazonaws.com/854337666006/formData	Message Retention Period 4 days
ARN: arn:aws:sqs:us-west-2:854337666006:formData	Maximum Message Size 256 KB
Created: 2017-01-18 14:17:37 GMT-07:00	Receive Message Wait Time 0 seconds
Last Updated: 2017-03-12 16:12:51 GMT-06:00	Messages Available (Visible): 0
Delivery Delay 0 seconds	Messages in Flight (Not Visible): 0
Queue Type: Standard	Messages Delayed: 0
Content-Based Deduplication: N/A	

Secure https://console.aws.amazon.com/sqs/home?region=us-west-2#queue-browser:selected=https://sq.us-west-2.amazonaws.com/854337666006/formData;p... ☆ :

Services Resource Groups ★

Create New Queue Queue Actions

Filter by Prefix: Enter Text... X 1 to 2 of 2 items

Name	Queue Type	Content-Based Deduplication	Messages Available	Messages in Flight	Created
formData	Standard Queue	N/A	0	0	2017-01-18 14:17:37 GMT-07:00
leadData	Standard Queue	N/A	1	0	2017-03-12 10:53:01 GMT-06:00

1 SQS Queue selected

Details Permissions Redrive Policy Monitoring

Name: formData	Default Visibility Timeout 30 seconds
URL: https://sq.us-west-2.amazonaws.com/854337666006/formData	Message Retention Period 4 days
ARN: arn:aws:sqs:us-west-2:854337666006:formData	Maximum Message Size 256 KB
Created: 2017-01-18 14:17:37 GMT-07:00	Receive Message Wait Time 0 seconds
Last Updated: 2017-03-12 16:12:51 GMT-06:00	Messages Available (Visible): 0
Delivery Delay 0 seconds	Messages in Flight (Not Visible): 0
Queue Type: Standard	Messages Delayed: 0
Content-Based Deduplication: N/A	

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Secure https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions?display=list

Services Resource Groups Tom Compagno Oregon Support

AWS Lambda

Dashboard Functions

Create a Lambda function Actions

Lambda > Functions

Filter

	Function name	Description	Runtime	Code size	Last Modified
<input type="radio"/>	queueFormData	take form data and place into sqs queue	Python 2.7	318 bytes	33 seconds ago
<input type="radio"/>	processForm		Python 2.7	318 bytes	16 minutes ago
<input type="radio"/>	coordinateWork	pull from sqs and send data to services	Node.js 4.3	4.0 kB	1 hour ago
<input type="radio"/>	sendEmail	send email to form email account	Python 2.7	567 bytes	14 days ago
<input type="radio"/>	processMessages		Python 2.7	759 bytes	2 months ago

Secure https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions/coordinateWork?tab=code

Services Resource Groups Tom Compagno Oregon Support

AWS Lambda

Lambda > Functions > coordinateWork ARN - arn:aws:la [REDACTED] function:coordinateWork

Dashboard Functions

Qualifiers Test Actions

This function contains external libraries. Uploading a new file will override these libraries. X

Code Configuration Triggers Monitoring ?

Code entry type Edit code inline

```
1 'use strict';
2
3 const https = require('https');
4 const AWS = require('aws-sdk');
5
6 const SQS = new AWS.SQS({ apiVersion: '2012-11-05' });
7 const QUEUE_URL = process.env.queue_url;
8
9 const requests = [
10   {
11     "name": "sfdc",
12     "options": {
13       hostname: process.env.gateway_url,
14       port: 443,
15       path: '/dev/sfdc-lead',
16       method: 'POST',
17       headers: {
18         'Content-Type': 'application/json',
19         'Content-Length': Buffer.byteLength(JSON.stringify(data))
20       }
21     }
22   }
23 ];
```

Secure https://us-west-2.console.aws.amazon.com/lambda/home?region=us-west-2#/functions/coordinateWork?tab=code

Services Resource Groups Tom Compagno Oregon Support

AWS Lambda Lambda > Functions > coordinateWork ARN - arn:aws:lambda:us-west-2:854337666006:function:coordinateWork

Dashboard Functions

Qualifiers Test Actions

Code Configuration Triggers Monitoring ?

Code entry type Edit code inline

```
1 'use strict';
2
3 const https = require('https');
4 const AWS = require('aws-sdk');
```

Execution result: succeeded (logs)

The area below shows the result returned by your function execution. [Learn more](#) about returning results from your function.

```
{ "messages": "sent message." }
```

Summary

Code SHA-256 AQMpGaluF74yae/tk8pMPRjlpo8kaKNPfiuZo72VO0=

Log output

The area below shows the logging calls in your code. These correspond to a single row within the CloudWatch log group corresponding to this Lambda function. [Click here](#) to view the CloudWatch log group.

Secure <https://na63.salesforce.com/00Q/o>

salesforce '17 Search... Search Thomas Compagno Help Sales

Home Chatter Campaigns Leads Accounts Contacts Opportunities Forecasts Contracts Cases Solutions Products Reports Dashboards +

Create New... ▾

Leads Home Tell me more! | Help for this Page ?

Recent Items

- TomForm CompagnoForm
- Tommy Compagno
- Tommy Compagno
- tom compagno
- tom compagno
- Tom Compagno

Recycle Bin

Quick Create

First Name
Last Name
Company
Phone
Email

View: My Unread Leads Go! Edit | Create New View

Recently Viewed ▾

Name	Company	Phone
CompagnoForm, TomForm	CompanyForm	8015558888
Compagno, Tommy	QueuedCompany	8015553892
Compagno, Tommy	QueuedCompany	8015553892
compagno, tom	yesyes	801383892
compagno, tom	yesyes	801383892
Compagno, Tom	Myself	8015554432

Recent Leads New

Reports

- Lead Lifetime
- Leads By Source
- Bounced Leads
- Go to Reports »

Summary

Interval: From: 3/5/2017 [3/12/2017]
To: [3/12/2017]
View: My leads ▾ Run Report

Chat

Today



Thank you - TomForm



me to me ↗

4:15 PM



Here is some valuable marketing information!



Reply



Thank you!

Thanks, I'll check it out.

Awesome, thanks!

Email with Correct Name from Form Test
TomForm comes through correctly from our form end to end test



Secure <https://tomplgroup.slack.com/messages/customer-contact/>

Download the Slack Mac app for greater control over your notifications. Easier if you're on multiple teams, too!

tomplgroup 

pluralsighttom

All Threads

CHANNELS (3) 

customer-contact 

general

random

DIRECT MESSAGES 

slackbot

pluralsighttom (you)

+ Invite people

customer-contact 

☆ | 1 | Add a topic

   @ ⭐ :

 Set a purpose  Add an app or custom integration  Invite others to this private channel

February 5th

 pluralsighttom 10:30 AM joined customer-contact

 pluralsighttom 10:31 AM added an integration to this channel: [incoming-webhook](#)

 incoming-webhook APP 10:47 AM This is a line of text.

And this is another one.

Today

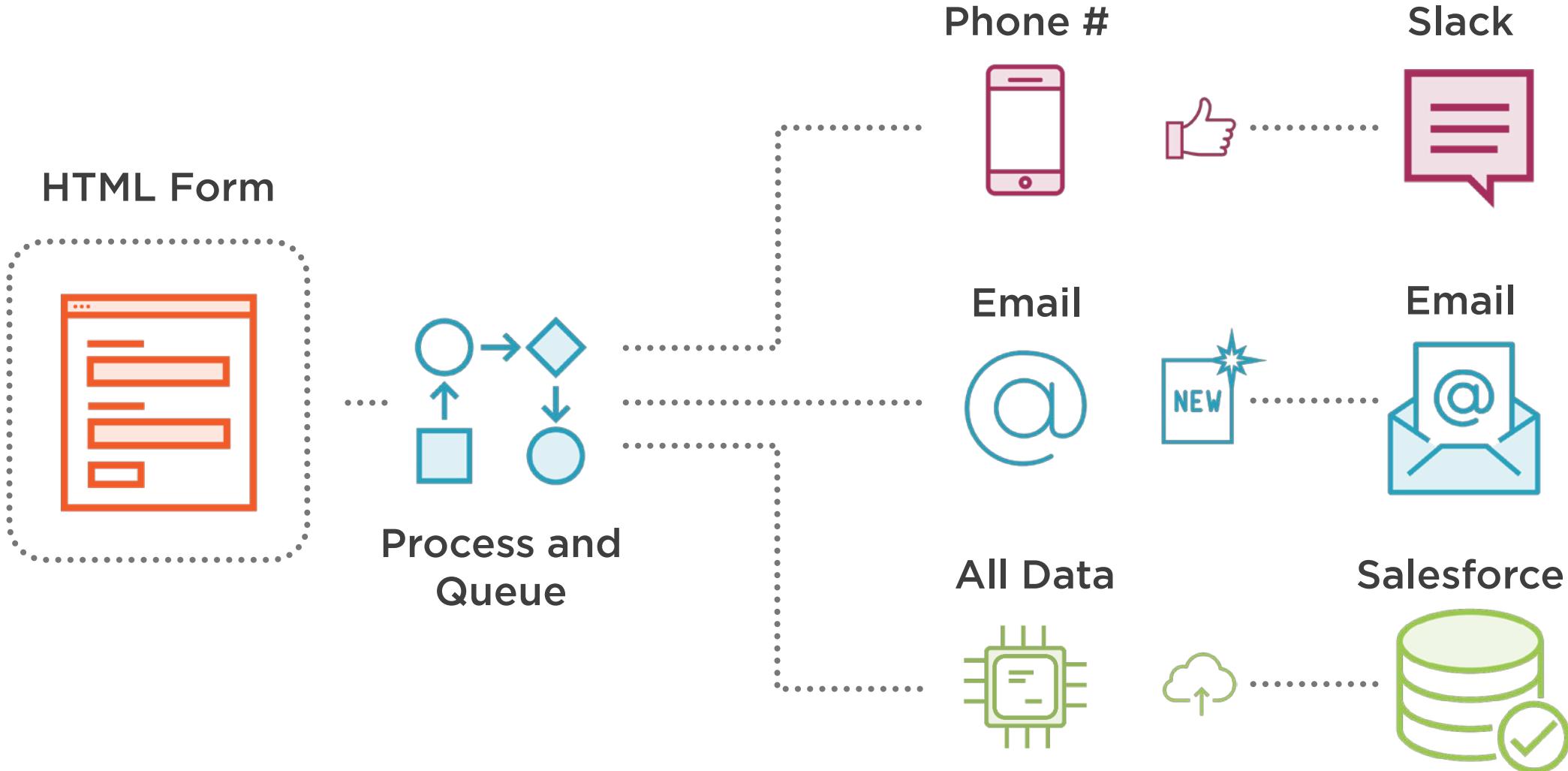
 incoming-webhook APP 11:08 AM 8015553892 Tommy Compagno

 incoming-webhook APP 3:13 PM 8015553892 Tommy Compagno

 incoming-webhook APP 4:15 PM 8015558888 TomForm CompagnoForm

 Message customer-contact 

Course Deliverable



Summary



Created a lambda to post message into an SQS queue

Updated our mock API to use our new lambda

Mapped HTML form post data into JSON with a gateway template

Validated a test message from our form correctly passed through to all three of our services

- Slack
- Email
- Salesforce

