CREATE YOUR FIRST ALEXA SKILL

PRESENTED BY

TechEm STUDIOS

CapTech®

Others Talk, We Listen.

WHAT/WHO IS ALEXA?

a **voice-controlled personal assistant** developed by Amazon. But also an example of...

Artificial Intelligence (AI). Alexa uses a service called Amazon Lex which uses **deep learning** to convert speech to text, and **natural language understanding** (NLU) to figure out the intent of the text.

"The age of touch could soon come to an end. From smartphones and watches, to home devices, to in-car infotainment systems, touch is no longer the primary user interface."

Source: Design News

Devices that use Alexa - The "Internet of Things"

new additions

What are Alexa Skills?

- Alexa has a few built-in features (music, reminders, timers, calling other users, weather, facts, calendar integration, etc.)
- **Skills** can be created by any person or company to add new capabilities to Alexa
- Anyone with a device that uses Alexa can choose and enable from thousands of skills

STEP 1: SET UP THE VOICE USER INTERFACE (VUI) USING THE ALEXA SKILLS KIT (ASK)

OPEN THE SAMPLE CODE IN GITHUB

https://github.com/techemstudios/inspiring-women-alexa

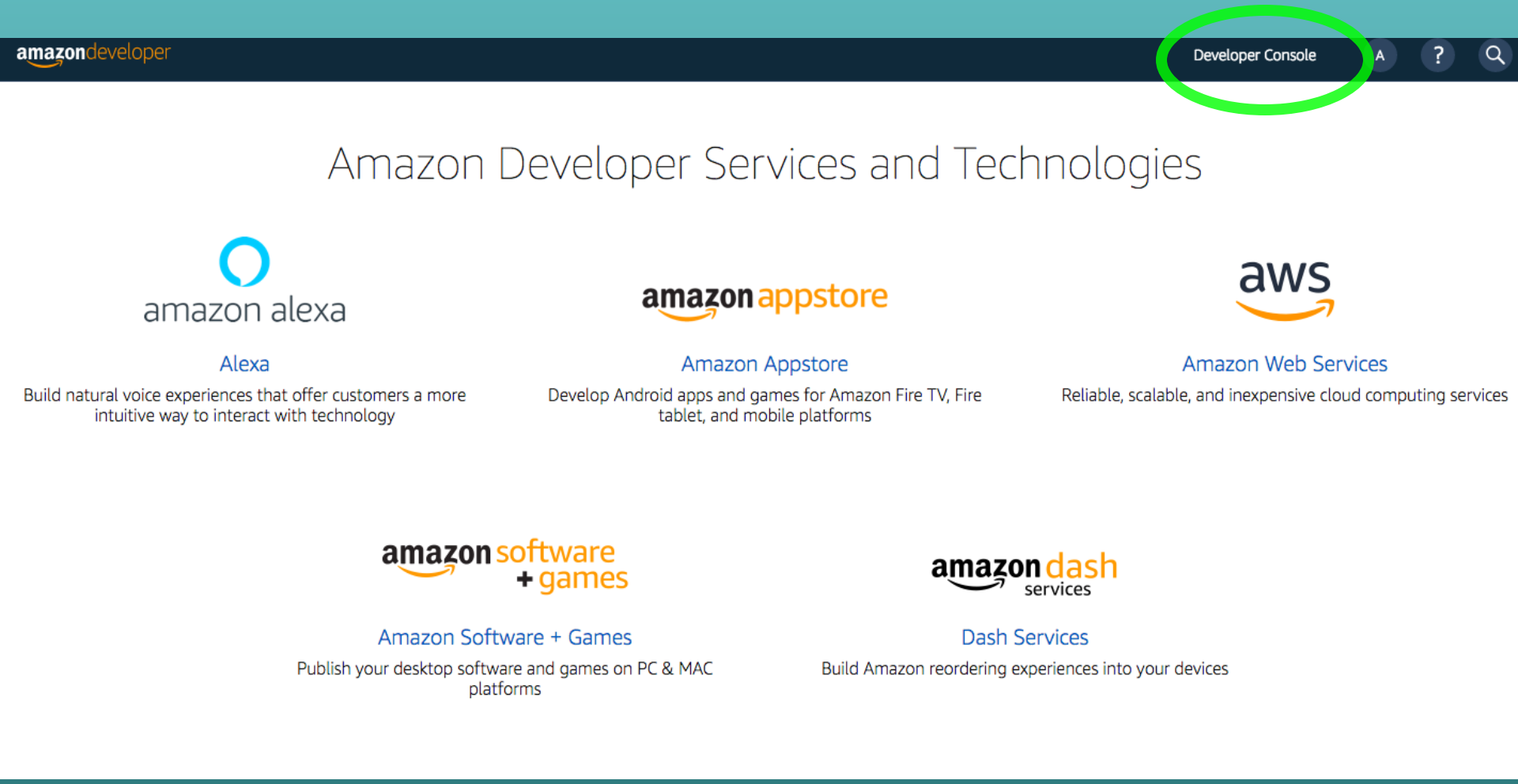
LOG INTO OUR DEMO AMAZON DEVELOPER ACCOUNT

http://developer.amazon.com

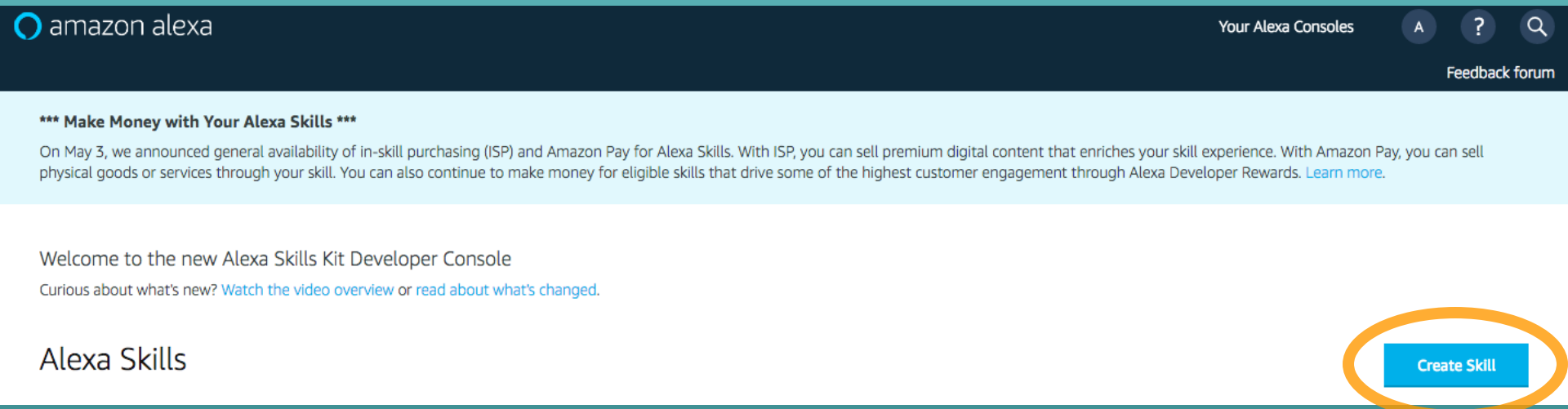
Username: alexa@techemstudios.com

Password: techme17

GO TO THE DEVELOPER CONSOLE

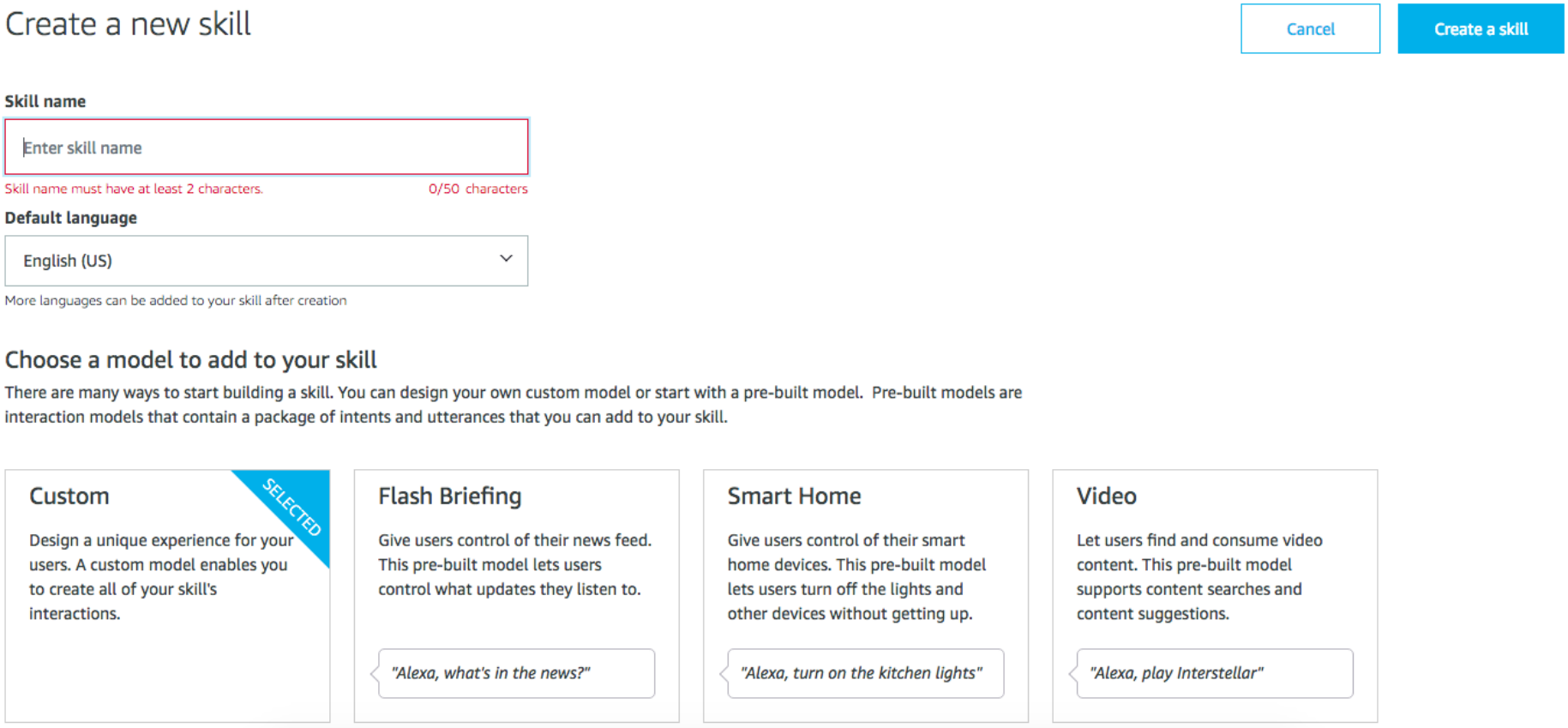


SELECT CREATE SKILL

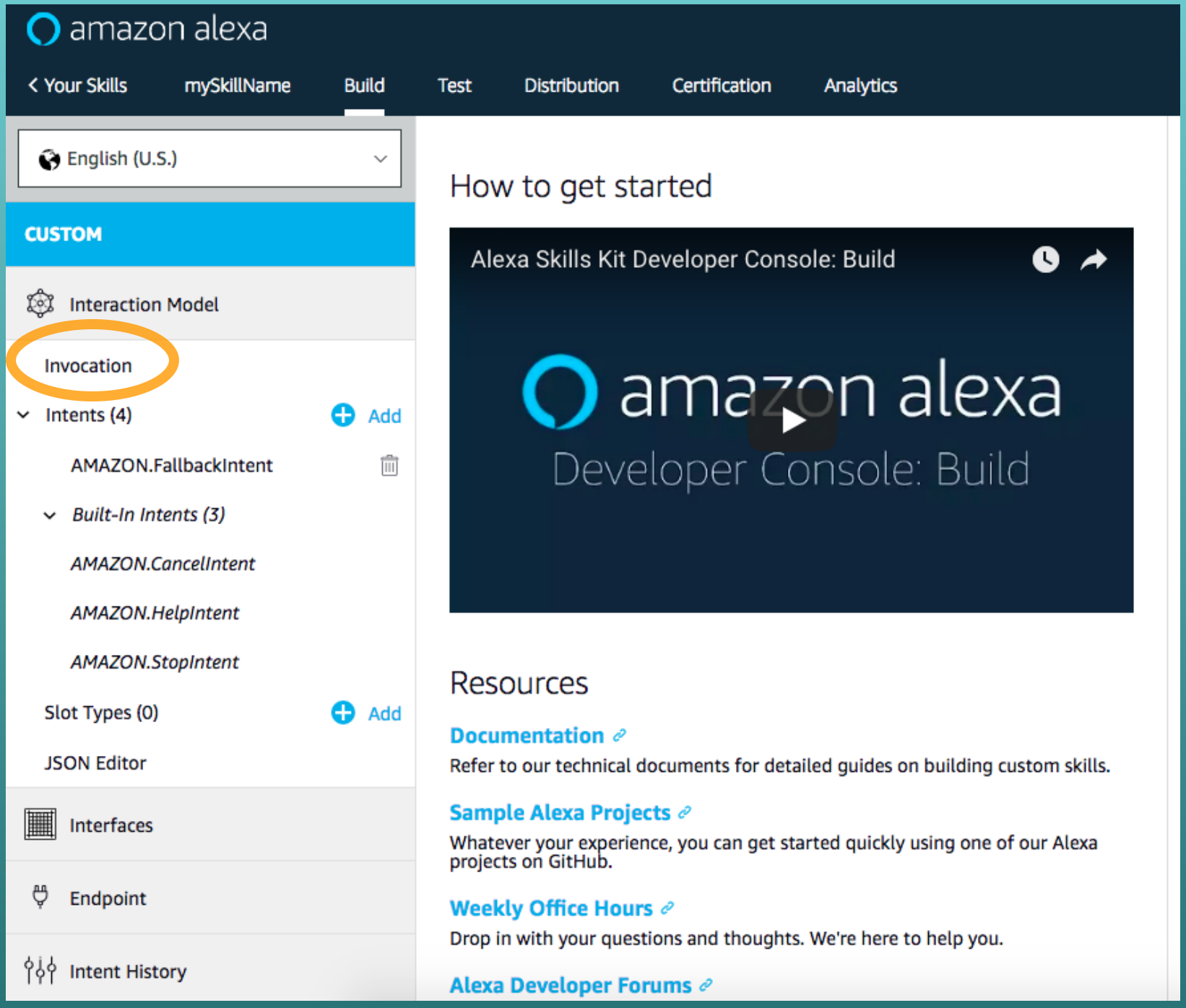


Create your first skill

NAME YOUR SKILL

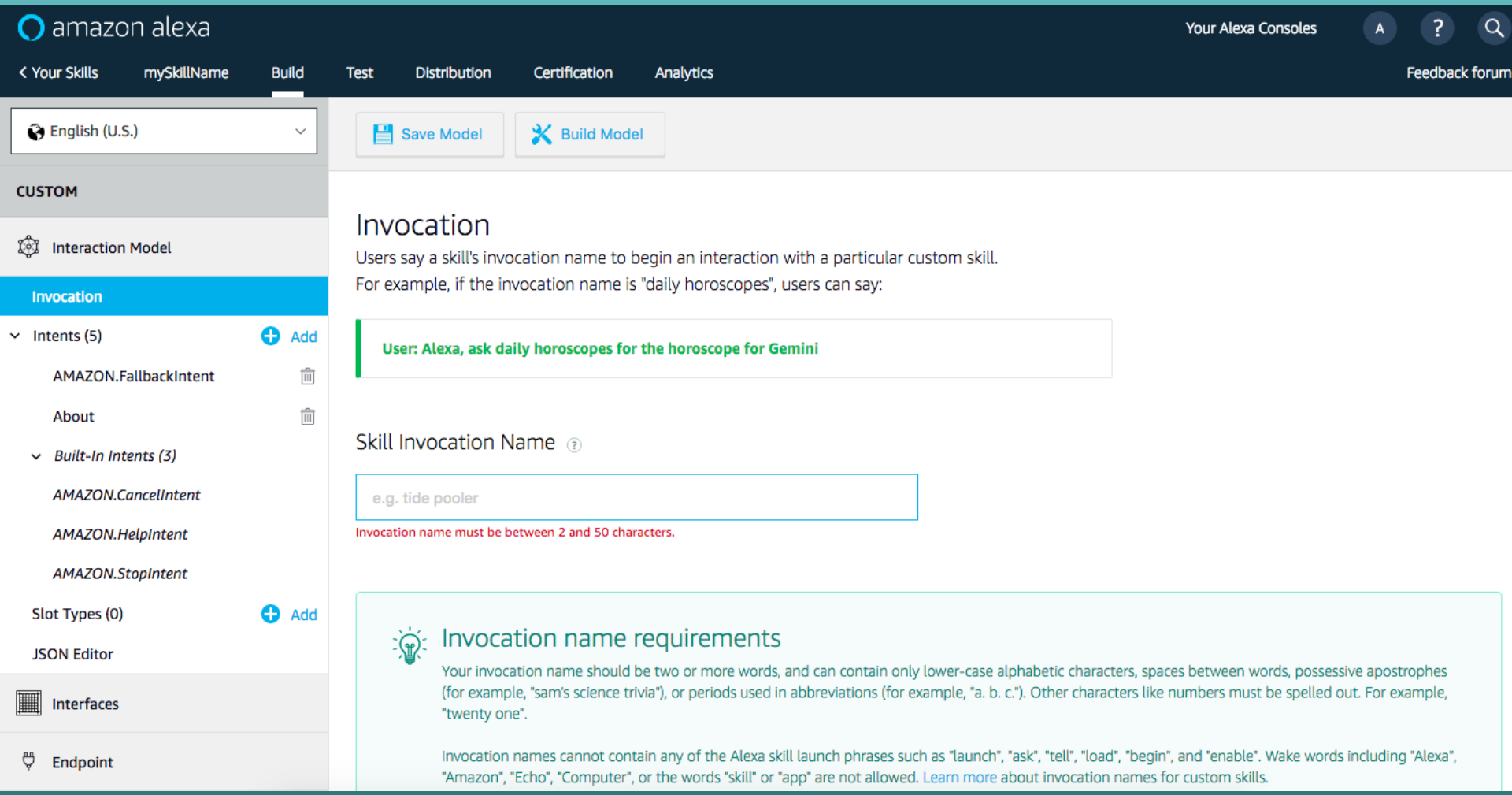


SET YOUR SKILL'S INVOCATION NAME


amazon alexa
< Your Skills
mySkillName
Build
Test
Distribution
Certification
Analytics
English (U.S.)
CUSTOM
Interaction Model
Invocation
Intents (4)
Add
AMAZON.FallbackIntent
Built-In Intents (3)
AMAZON.CancelIntent
AMAZON.HelpIntent
AMAZON.StopIntent
Slot Types (0)
Add
JSON Editor
Interfaces
Endpoint
Intent History
How to get started
Alexa Skills Kit Developer Console: Build
amazon alexa
Developer Console: Build
Resources
Documentation
Refer to our technical documents for detailed guides on building custom skills.
Sample Alexa Projects
Whatever your experience, you can get started quickly using one of our Alexa projects on GitHub.
Weekly Office Hours
Drop in with your questions and thoughts. We're here to help you.
Alexa Developer Forums

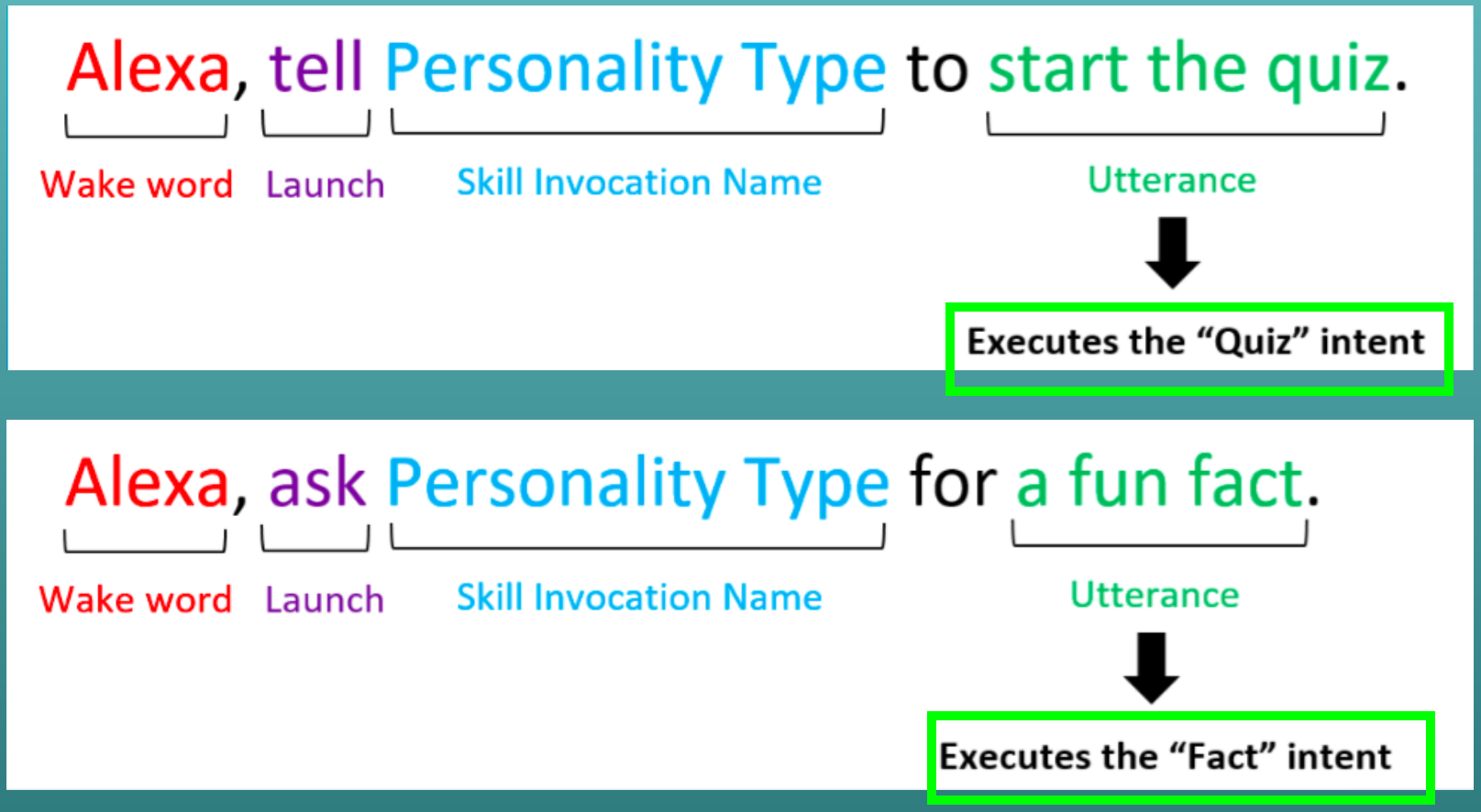
INVOCATION NAME

the name people say to *invoke* your skill

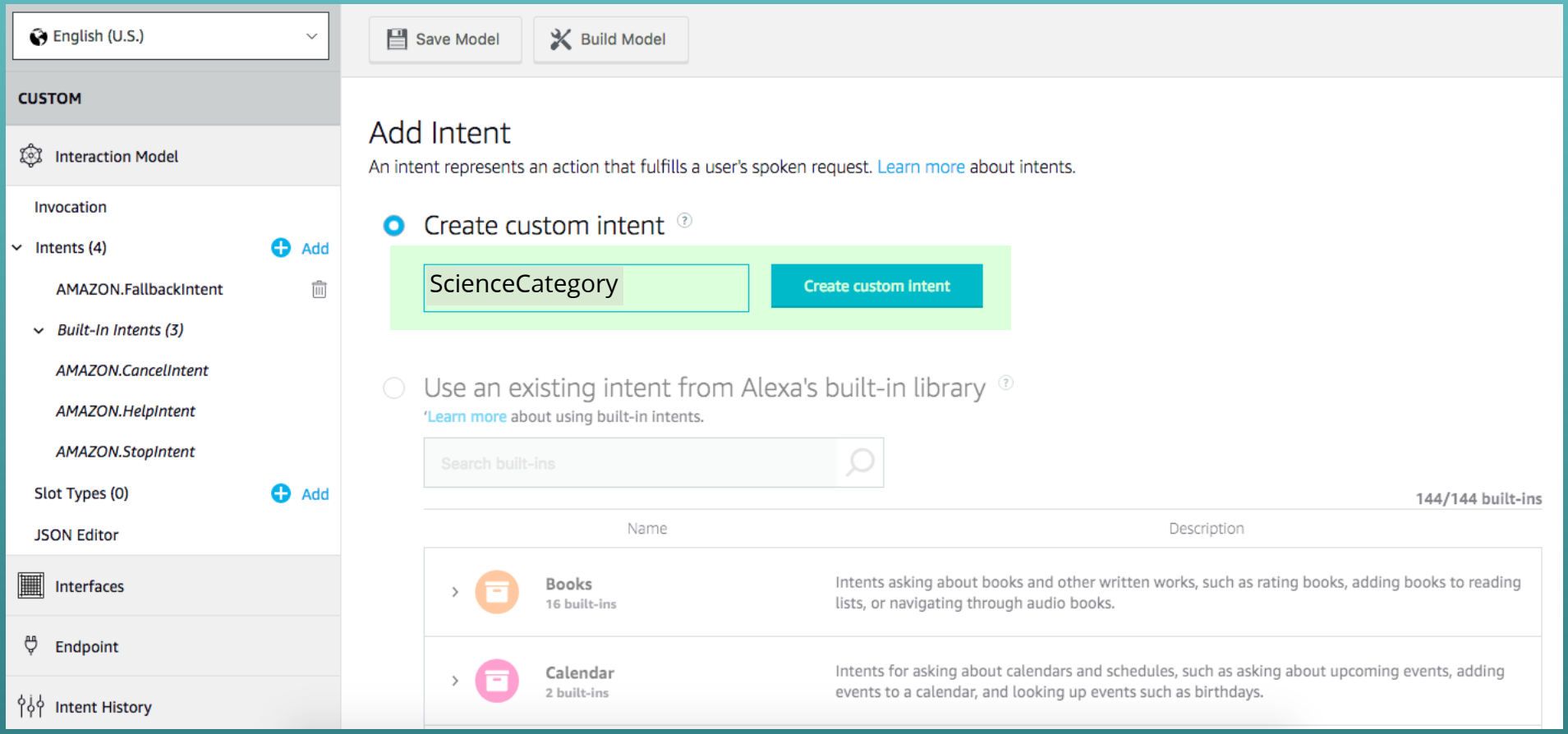


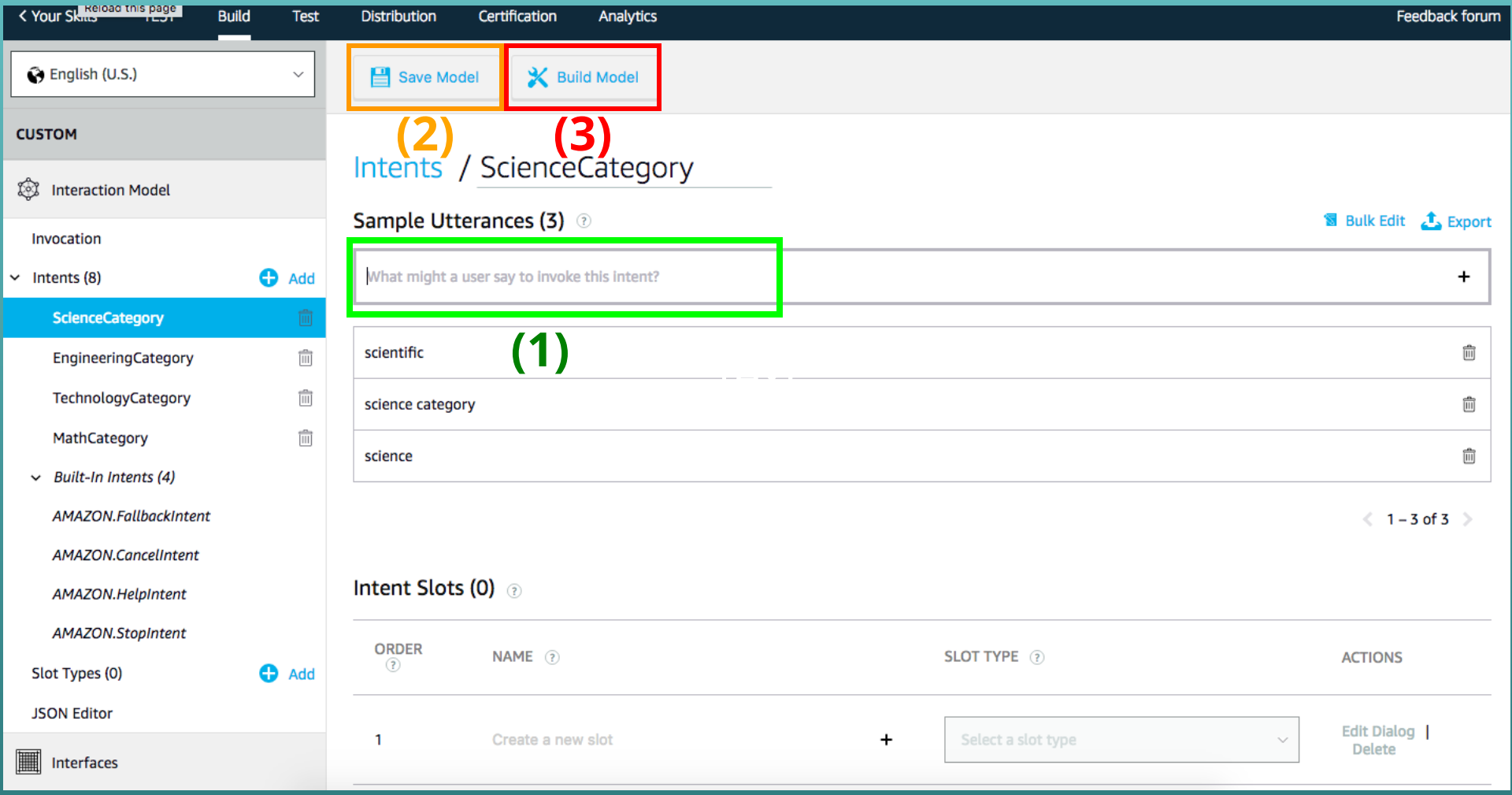
A **voice user interface (VUI)** allows people to use their voice to control computers and devices.

TERMINOLOGY



Intents


English (U.S.)
Save Model
Build Model
CUSTOM
Interaction Model
Invocation
Intents (4)
Add
AMAZON.FallbackIntent
Built-In Intents (3)
AMAZON.CancelIntent
AMAZON.HelpIntent
AMAZON.StopIntent
Slot Types (0)
Add
JSON Editor
Interfaces
Endpoint
Intent History
Add Intent
An intent represents an action that fulfills a user's spoken request. Learn more about intents.
Create custom intent
ScienceCategory
Create custom intent
Use an existing intent from Alexa's built-in library
Learn more about using built-in intents.
Search built-ins
144/144 built-ins
Name
Description
Books
16 built-ins
Intents asking about books and other written works, such as rating books, adding books to reading lists, or navigating through audio books.
Calendar
2 built-ins
Intents for asking about calendars and schedules, such as asking about upcoming events, adding events to a calendar, and looking up events such as birthdays.


Reload this page
Your Skills
TEST
Build
Test
Distribution
Certification
Analytics
Feedback forum
English (U.S.)
Save Model
Build Model
(2)
(3)
CUSTOM
Interaction Model
Invocation
Intents (8)
Add
ScienceCategory
EngineeringCategory
TechnologyCategory
MathCategory
Built-In Intents (4)
AMAZON.FallbackIntent
AMAZON.CancelIntent
AMAZON.HelpIntent
AMAZON.StopIntent
Slot Types (0)
Add
JSON Editor
Interfaces
Intents / ScienceCategory
Sample Utterances (3)
Bulk Edit
Export
What might a user say to invoke this intent?
(1)
scientific
science category
science
1 – 3 of 3
Intent Slots (0)
ORDER
NAME
SLOT TYPE
ACTIONS
1
Create a new slot
Select a slot type
Edit Dialog
Delete

STEP 2: CREATE YOUR SKILL LOGIC USING AN AWS LAMBDA FUNCTION

COMPONENTS OF AN ALEXA SKILL

WHAT IS THE CLOUD?

The **cloud** is software and services that run on the internet (a.k.a. someone else's server) instead of running from your computer

Amazon Web Services (AWS) is a cloud services platform.

AWS Lambda is one of those services -- it lets you build and run your code online

LOGIN TO OUR DEMO AWS ACCOUNT

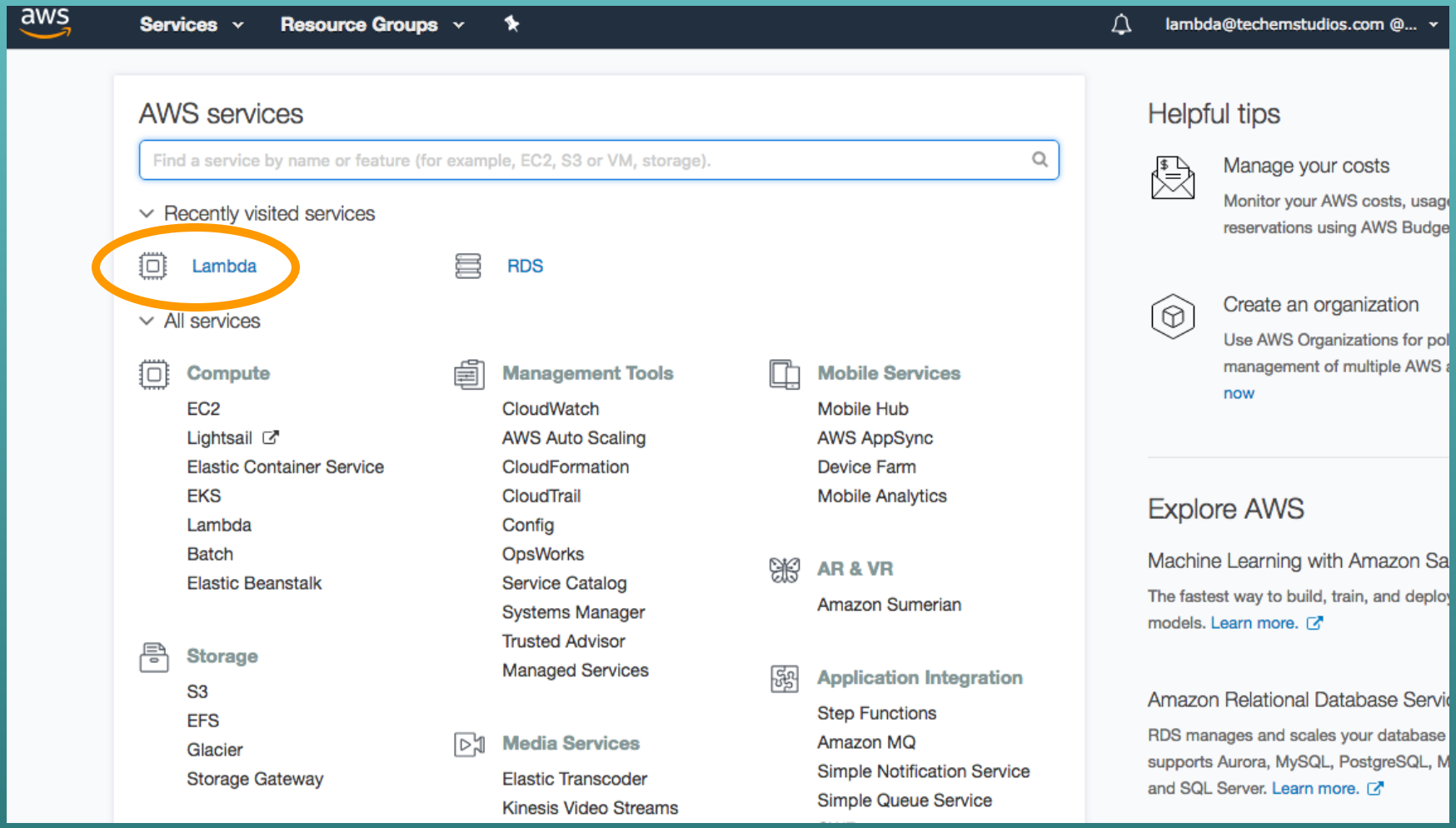
https://console.aws.amazon.com

Account ID: 694910018021

Username: lambda@techemstudios.com

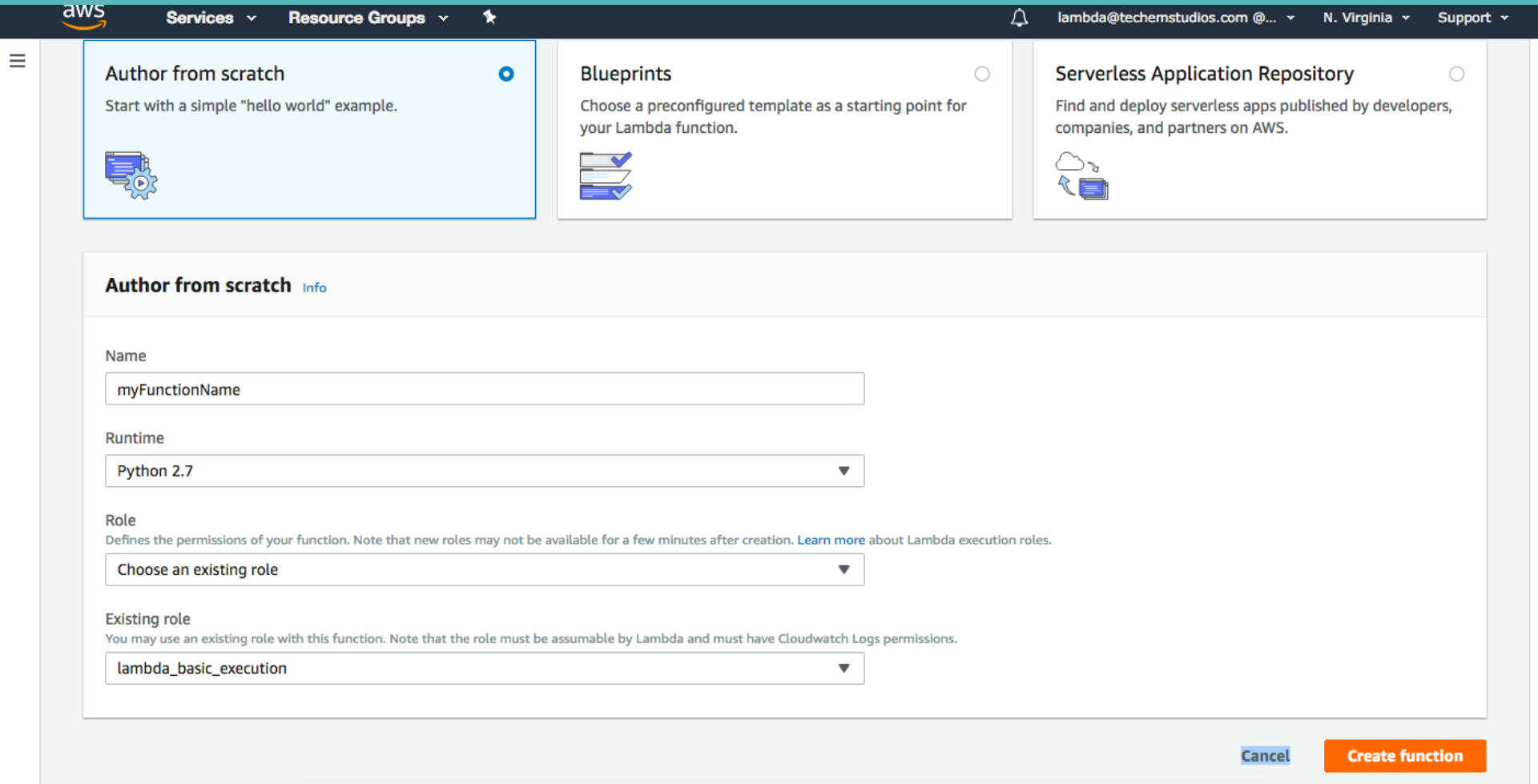
Password: techme17

AWS Lambda

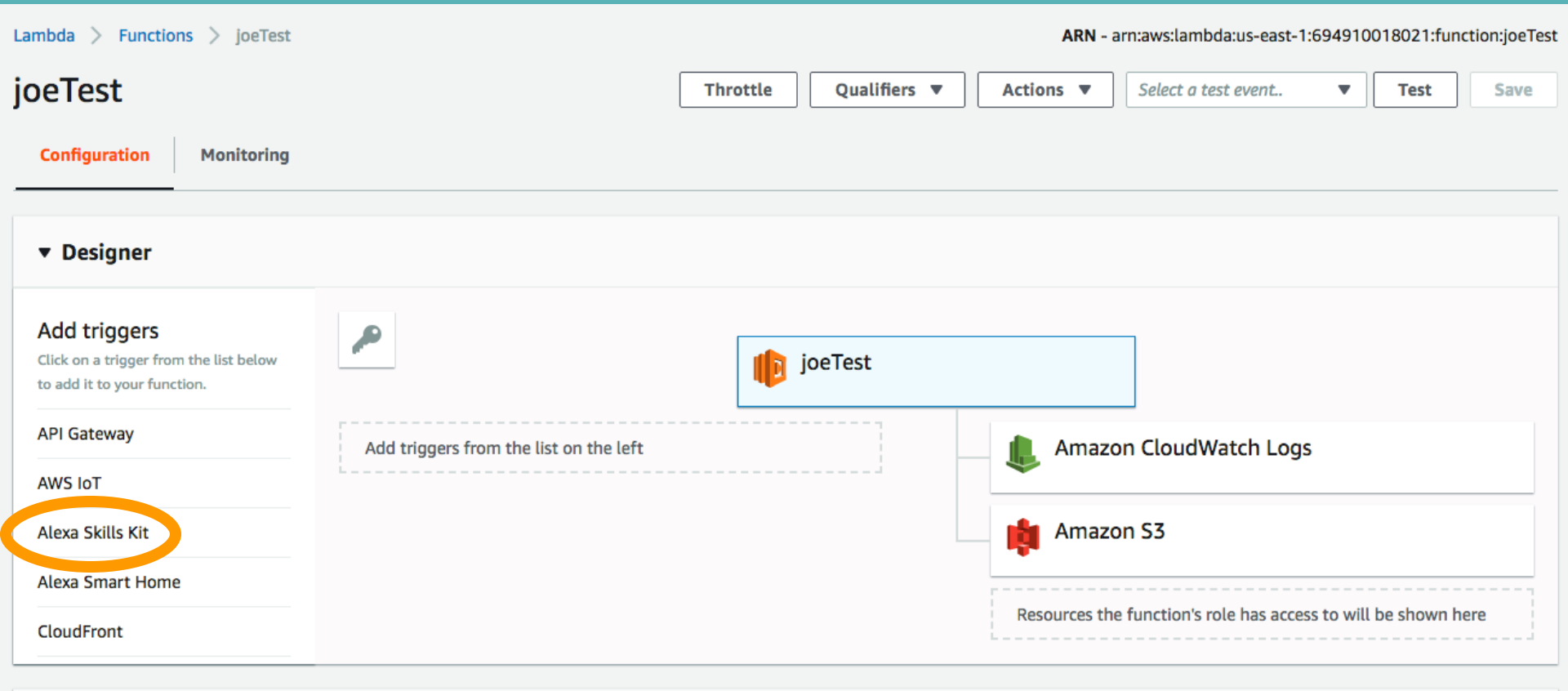

aws
Services
Resource Groups
lambda@techemstudios.com @...
AWS services
Find a service by name or feature (for example, EC2, S3 or VM, storage).
Recently visited services
Lambda
RDS
All services
Compute
EC2
Lightsail
Elastic Container Service
EKS
Lambda
Batch
Elastic Beanstalk
Management Tools
CloudWatch
AWS Auto Scaling
CloudFormation
CloudTrail
Config
OpsWorks
Service Catalog
Systems Manager
Trusted Advisor
Managed Services
Mobile Services
Mobile Hub
AWS AppSync
Device Farm
Mobile Analytics
AR & VR
Amazon Sumerian
Storage
S3
EFS
Glacier
Storage Gateway
Application Integration
Step Functions
Amazon MQ
Simple Notification Service
Simple Queue Service
Media Services
Elastic Transcoder
Kinesis Video Streams
Helpful tips
Manage your costs
Monitor your AWS costs, usag
reservations using AWS Budge
Create an organization
Use AWS Organizations for pol
management of multiple AWS
now
Explore AWS
Machine Learning with Amazon Sa
The fastest way to build, train, and deplo
models. Learn more.
Amazon Relational Database Servi
RDS manages and scales your database
supports Aurora, MySQL, PostgreSQL, M
and SQL Server. Learn more.

Create your Lambda function

CREATE YOUR LAMBDA FUNCTION

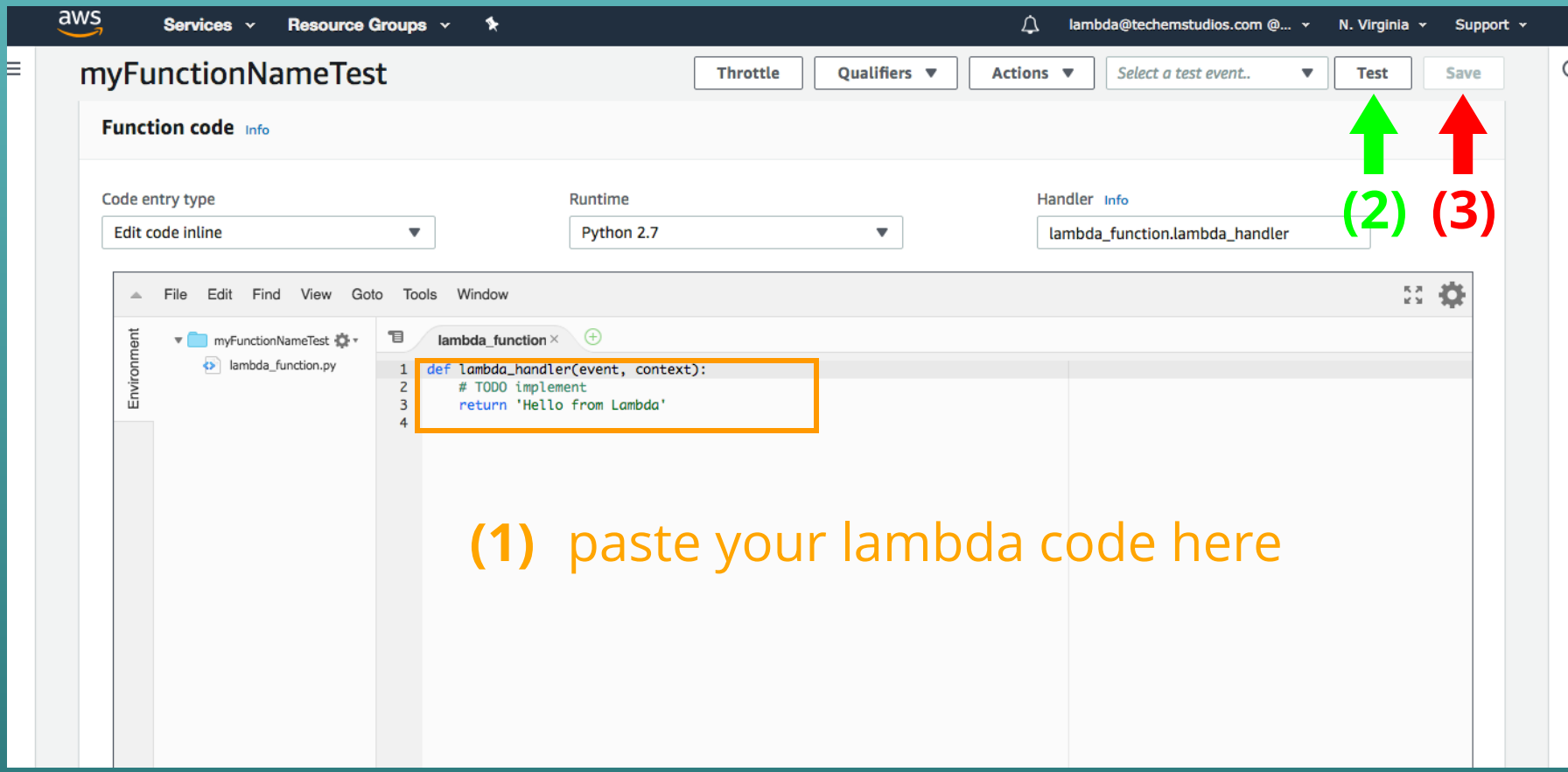


ADD TRIGGER

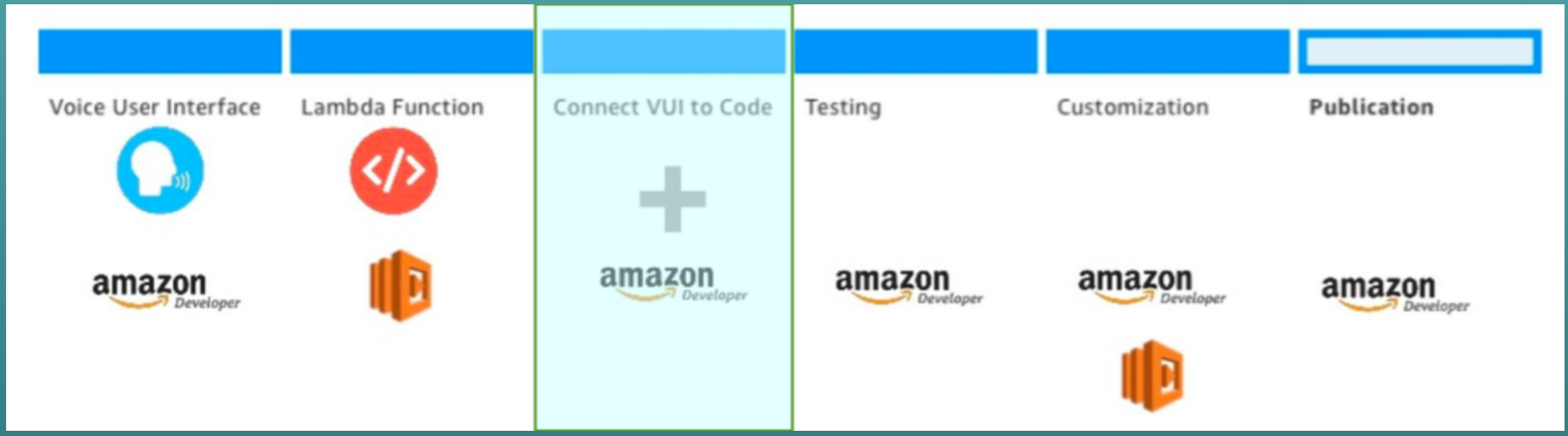

Lambda > Functions > joeTest
ARN - arn:aws:lambda:us-east-1:694910018021:function:joeTest
joeTest
Throttle
Qualifiers
Actions
Select a test event..
Test
Save
Configuration
Monitoring
Designer
Add triggers
Click on a trigger from the list below to add it to your function.
API Gateway
AWS IoT
Alexa Skills Kit
Alexa Smart Home
CloudFront
joeTest
Add triggers from the list on the left
Amazon CloudWatch Logs
Amazon S3
Resources the function's role has access to will be shown here

copy the code from src/main.py

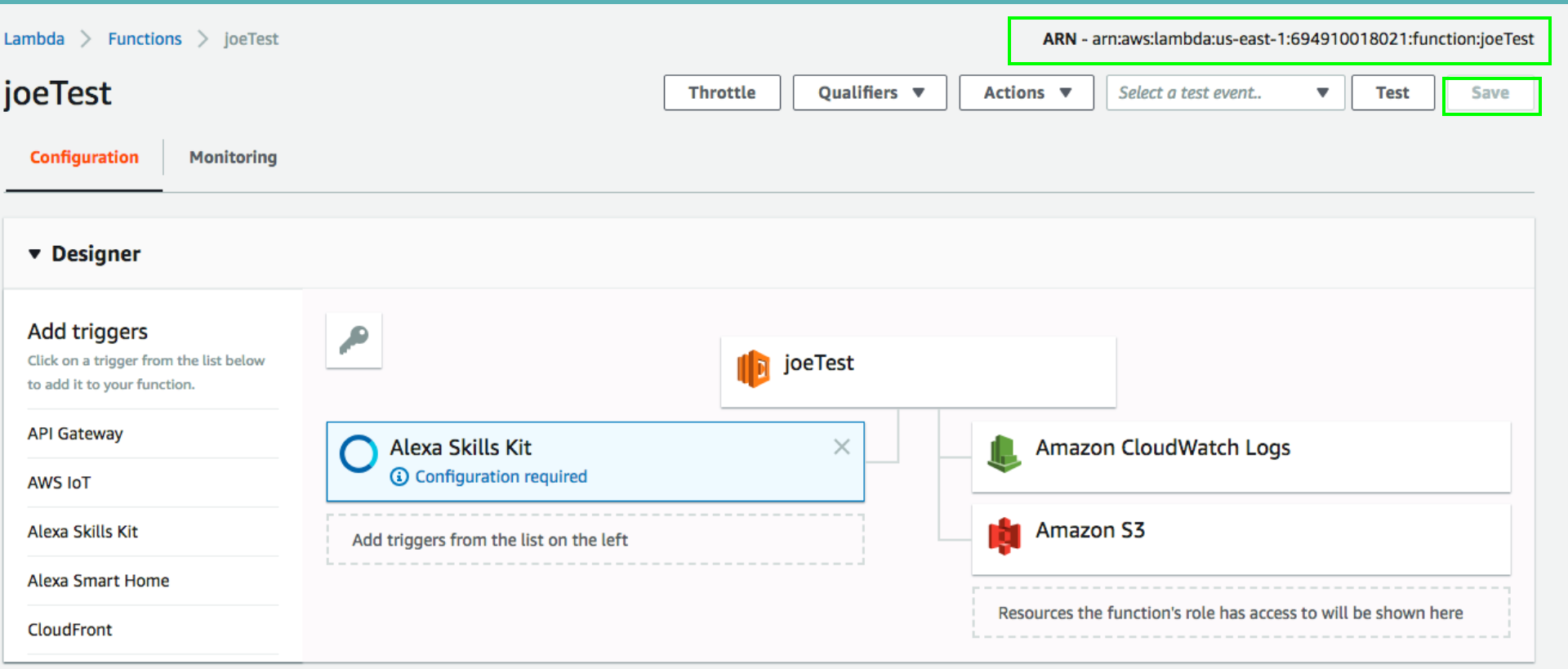
https://github.com/techemstudios/inspiring-women-alexa



STEP 3: CONNECT YOUR VUI TO YOUR LAMBDA FUNCTION

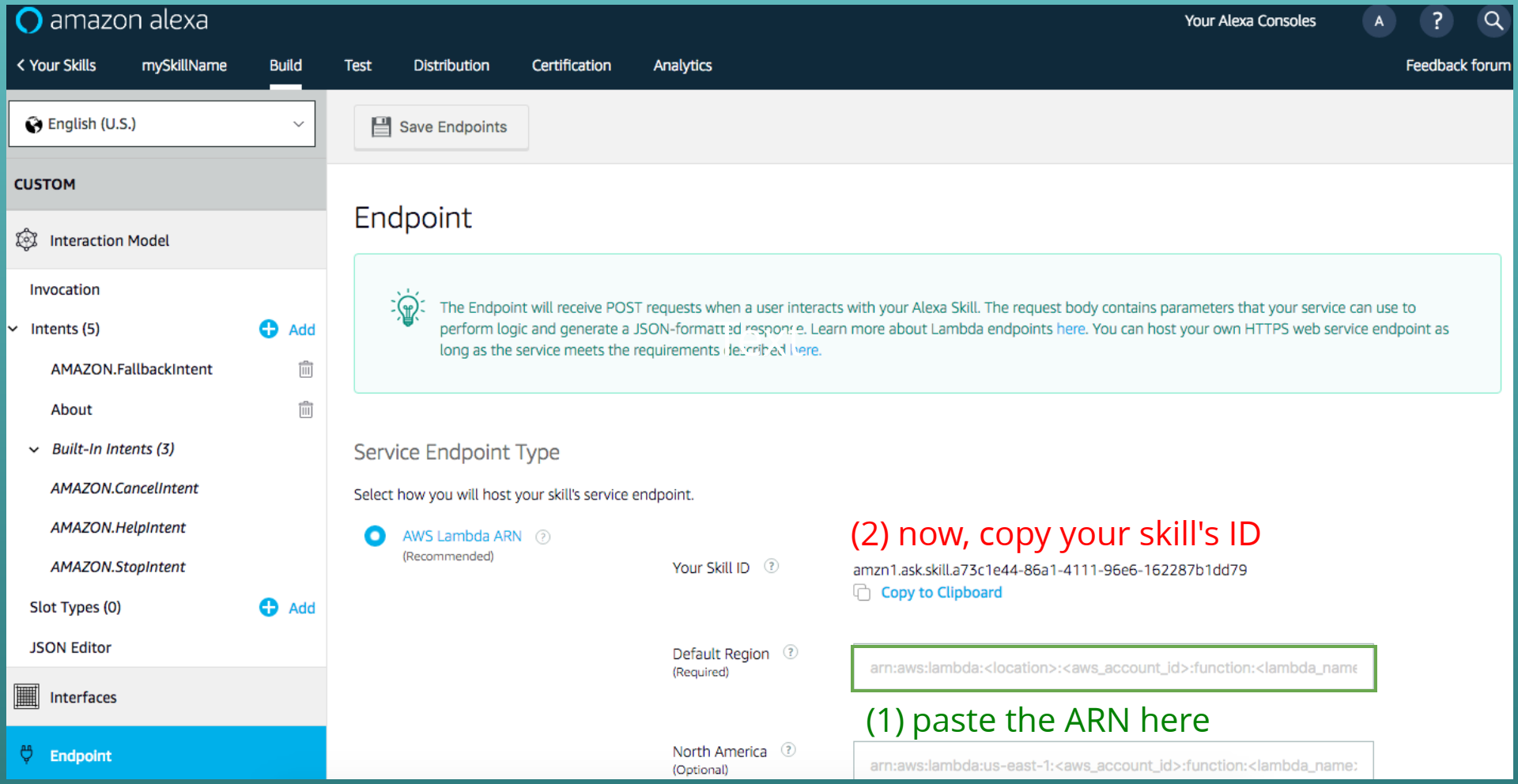


COPY THE ARN

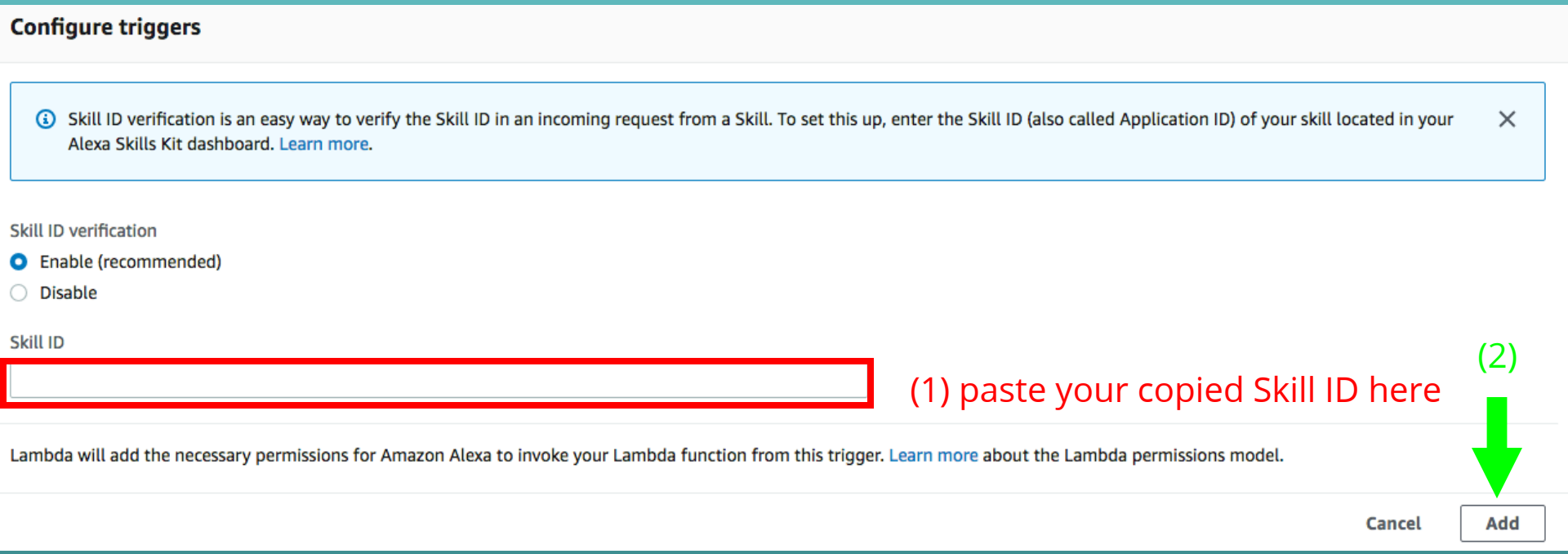

Lambda > Functions > joeTest
ARN - arn:aws:lambda:us-east-1:694910018021:function:joeTest
joeTest
Throttle
Qualifiers
Actions
Select a test event..
Test
Save
Configuration
Monitoring
Designer
Add triggers
Click on a trigger from the list below to add it to your function.
API Gateway
AWS IoT
Alexa Skills Kit
Alexa Smart Home
CloudFront
joeTest
Alexa Skills Kit
Configuration required
Add triggers from the list on the left
Amazon CloudWatch Logs
Amazon S3
Resources the function's role has access to will be shown here

Go back to

developer.amazon.com


amazon alexa
Your Alexa Consoles
A
Your Skills
mySkillName
Build
Test
Distribution
Certification
Analytics
Feedback forum
English (U.S.)
Save Endpoints
CUSTOM
Interaction Model
Invocation
Intents (5)
Add
AMAZON.FallbackIntent
About
Built-In Intents (3)
AMAZON.CancelIntent
AMAZON.HelpIntent
AMAZON.StopIntent
Slot Types (0)
Add
JSON Editor
Interfaces
Endpoint
Endpoint
The Endpoint will receive POST requests when a user interacts with your Alexa Skill. The request body contains parameters that your service can use to perform logic and generate a JSON-formatted response. Learn more about Lambda endpoints here. You can host your own HTTPS web service endpoint as long as the service meets the requirements described here.
Service Endpoint Type
Select how you will host your skill's service endpoint.
AWS Lambda ARN
(Recommended)
(2) now, copy your skill's ID
Your Skill ID
amzn1.ask.skill.a73c1e44-86a1-4111-96e6-162287b1dd79
Copy to Clipboard
Default Region
(Required)
arn:aws:lambda:<location>:<aws_account_id>:function:<lambda_name
(1) paste the ARN here
North America
(Optional)
arn:aws:lambda:us-east-1:<aws_account_id>:function:<lambda_name:

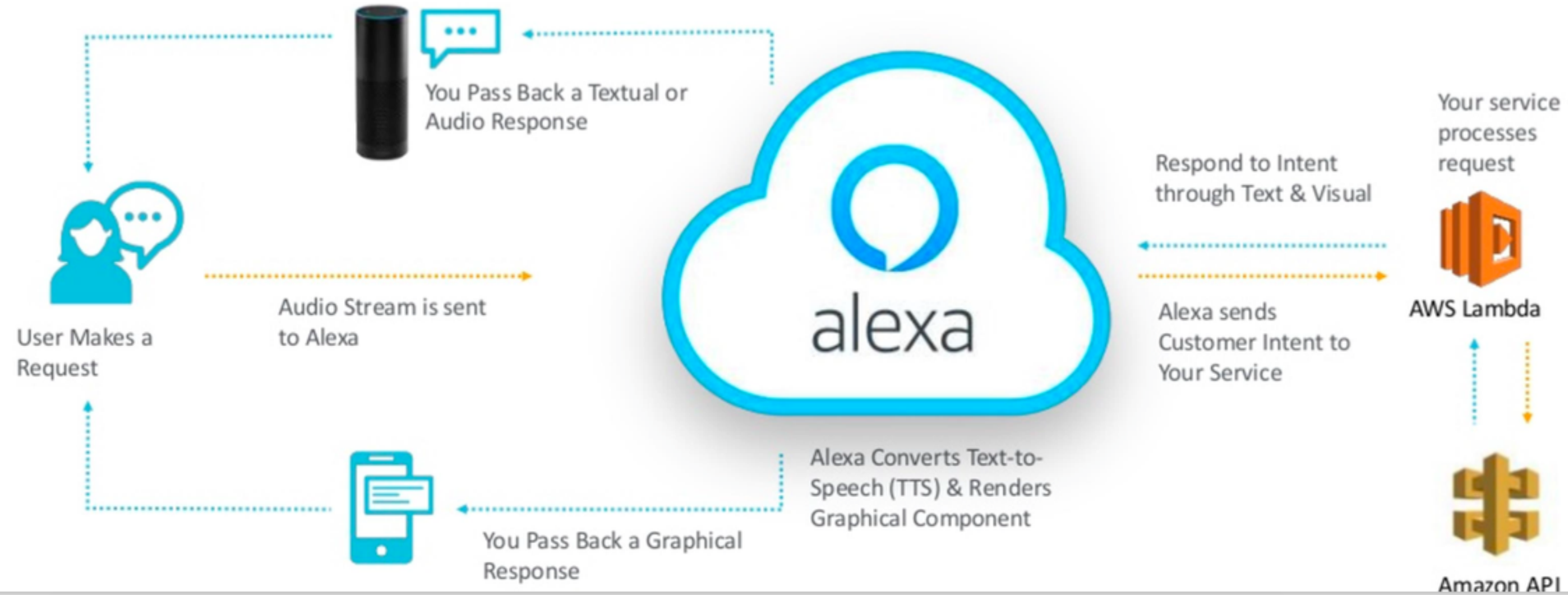
Go back to your
Lambda Function



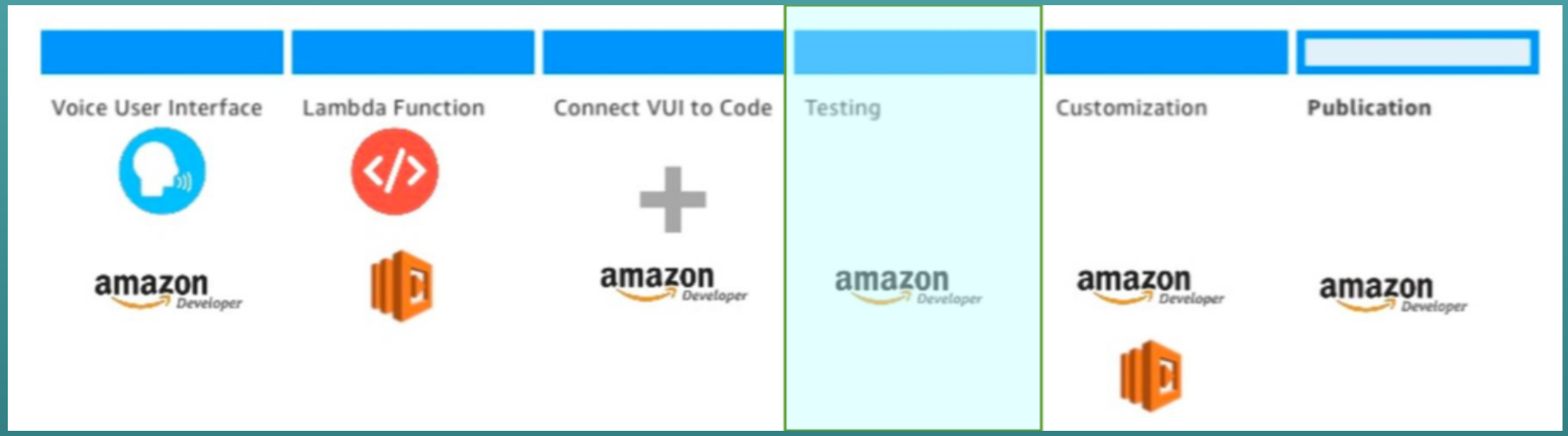
Your skill & your Lambda function can now communicate!

The Life Cycle of our Skill

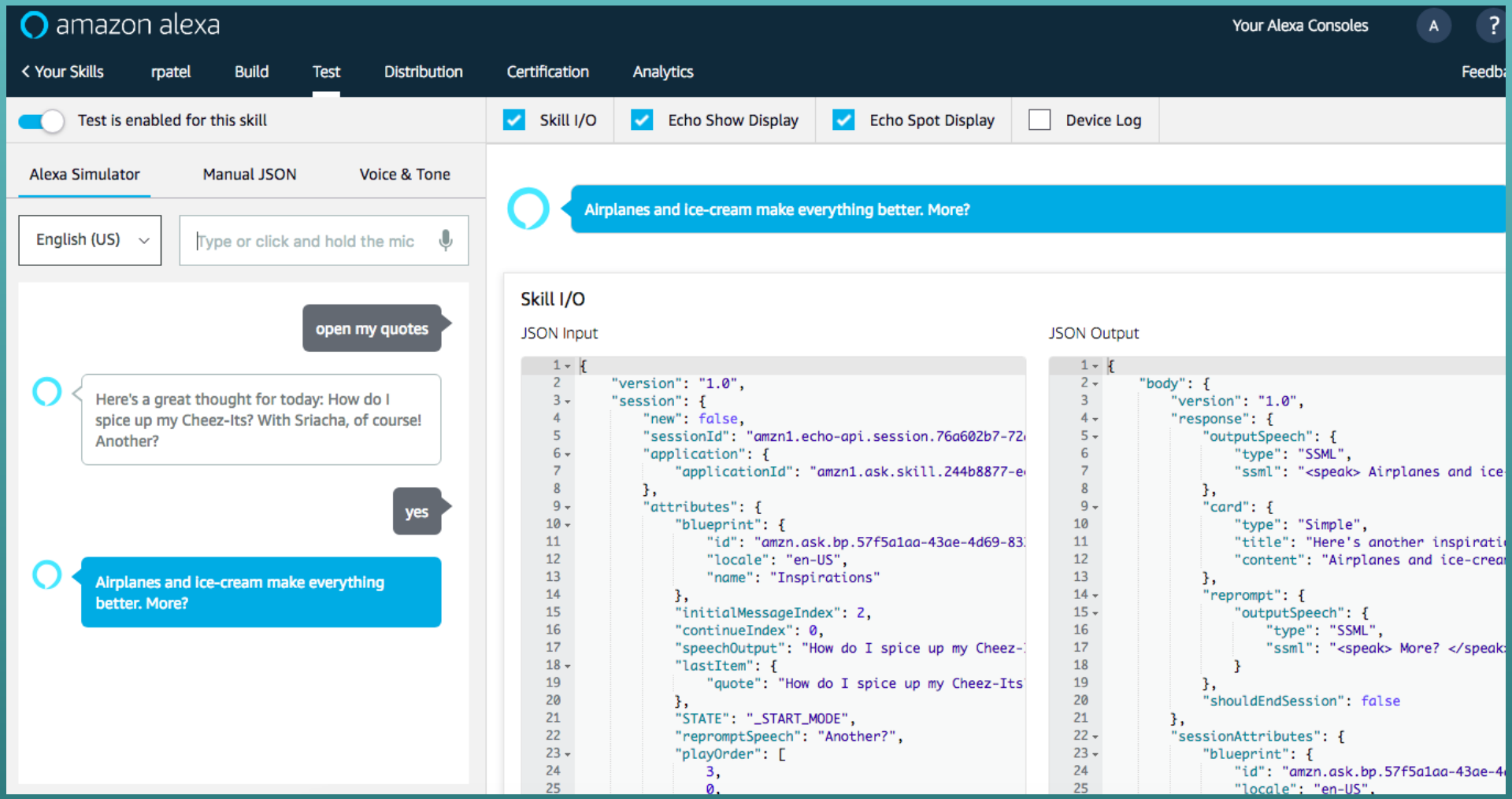
A look at how the Alexa Skills Kit process a request and returns an appropriate response



STEP 4: TEST YOUR ALEXA SKILL



Test ALL utterances to make sure the service response gives you what you'd expect.



Note: to test the **Launch** intent, you have to include the skill's invocation name after the word "open" or "launch" or "start".

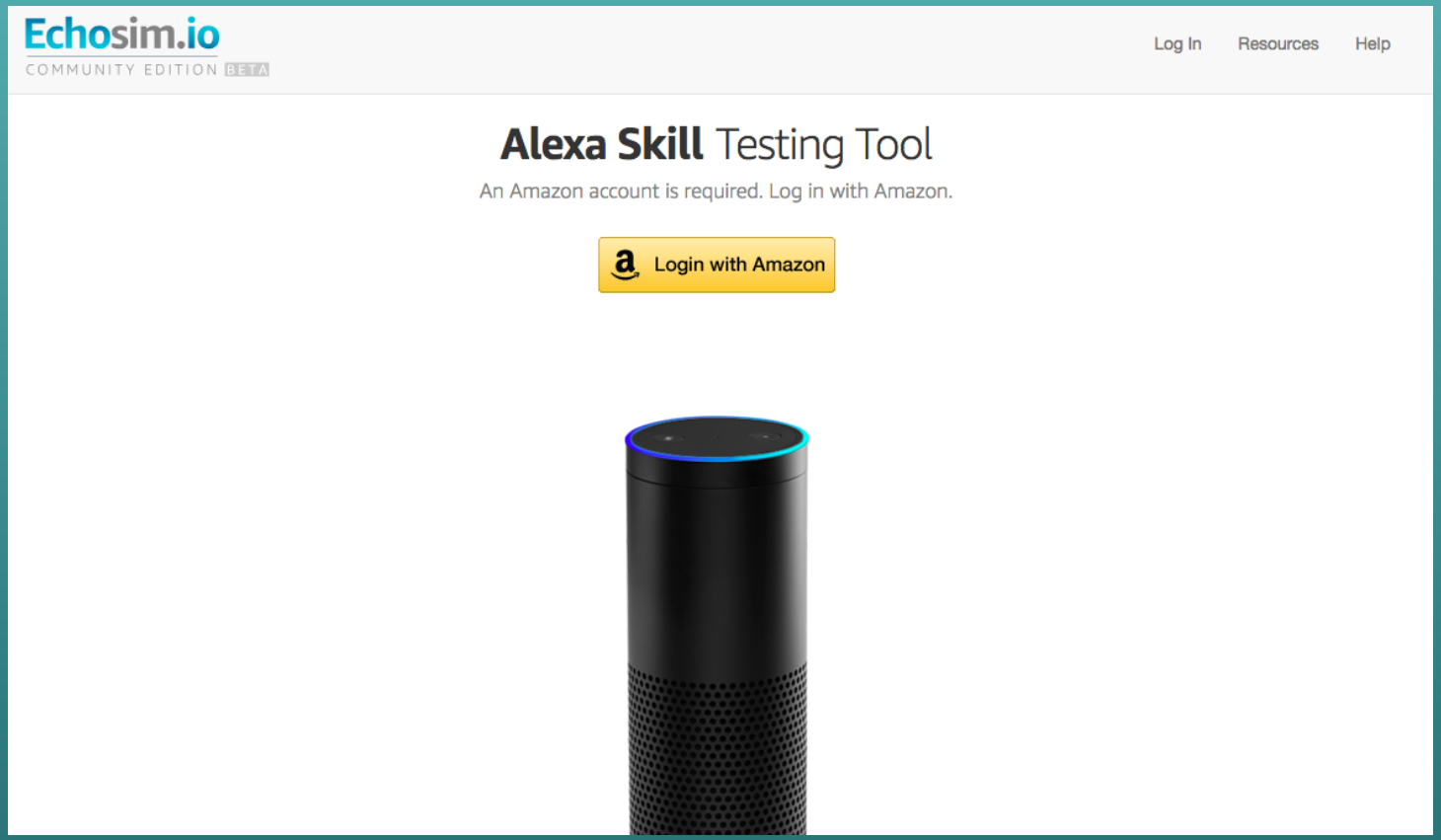
But for all other intents, you can simply type the utterance by itself to test it.

Troubleshoot Service Response Errors: Copy the service request from the Service Simulator and paste into the Lambda's "Configure test events" modal.

Then click "Test". Error details will be under the Execution result's Details section.

Go to Echosim.io to perform verbal testing of your skill if you don't have an Alexa-enabled device.

You can also grant the developer.amazon.com to have microphone access to test with voice.



STEP 5: CUSTOMIZE THE SKILL TO BE YOURS

STEP 6: OPTIONAL - GET YOUR SKILL CERTIFIED & PUBLISHED