

Building Alexa Skills

@natevw

Full Stack TC, 2018 Jan. 9

Amazon Alexa



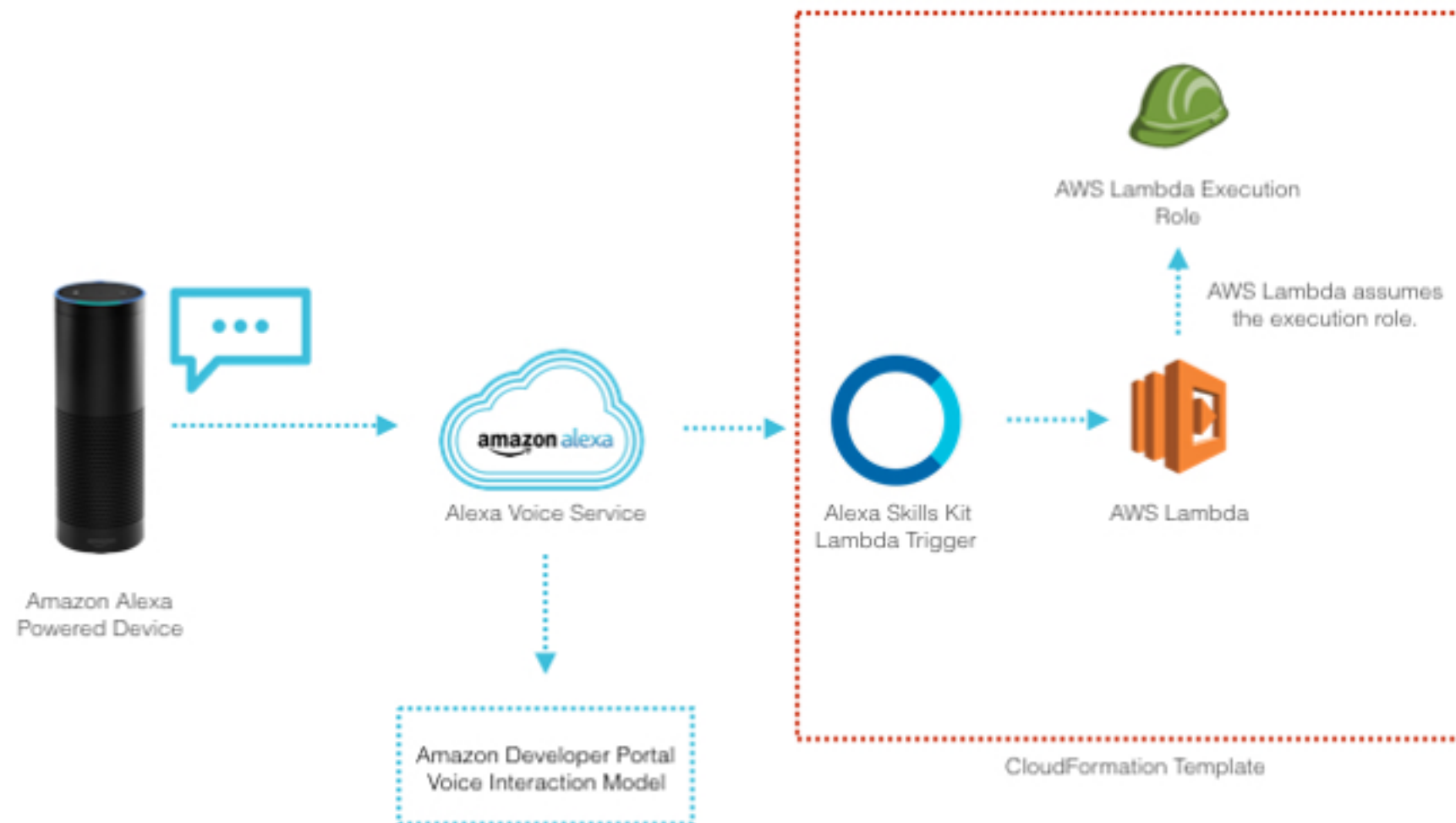
Amazon Alexa





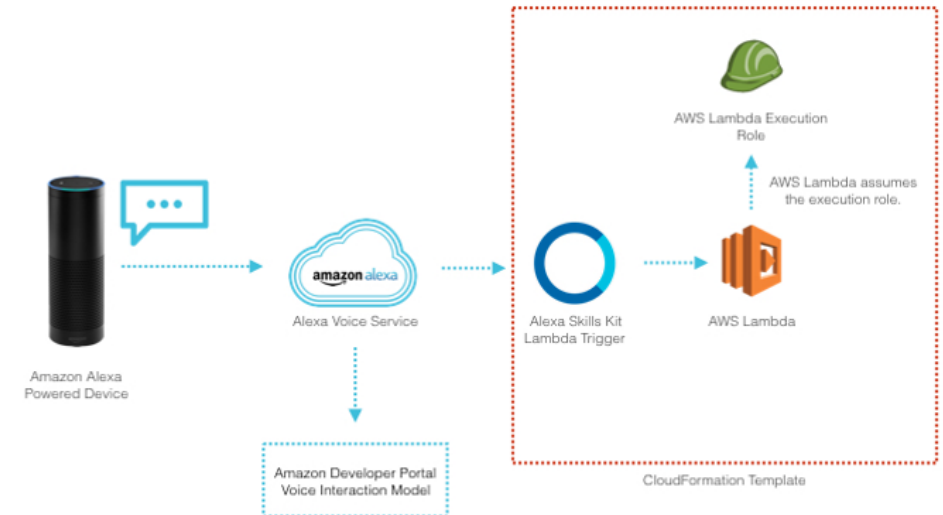
“Skills”

Technical overview



Source: <https://developer.amazon.com/blogs/alexa/post/Tx27NAUCY0KQ34D/rapidly-create-your-alexa-skill-backend-with-aws-cloudformation>

Technical overview

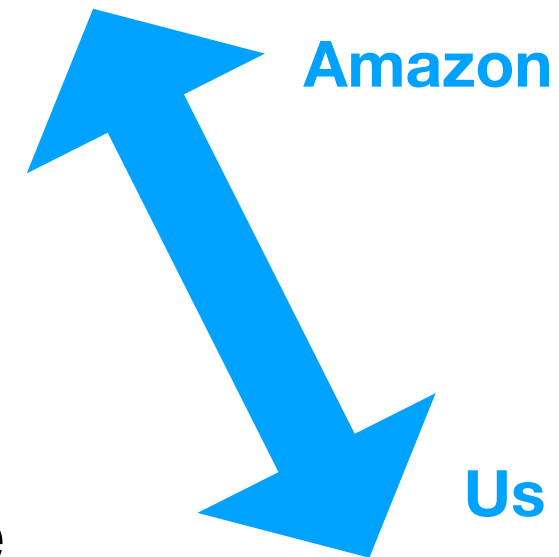


- Automatic Speech Recognition
- Natural Language Understanding “four miles” vs. “for Miles”
- ...leading to some Desired Outcome

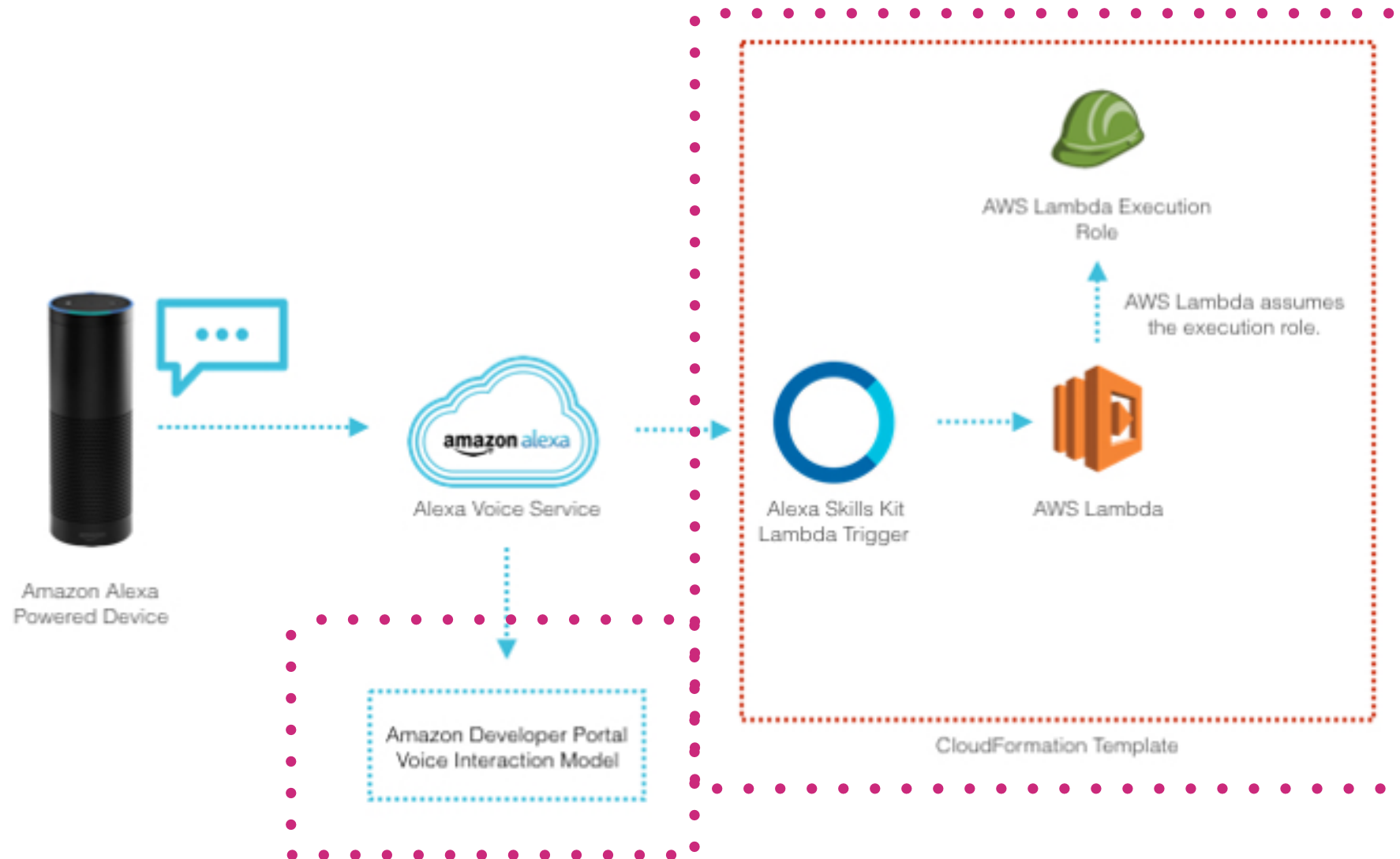
<https://youtu.be/umJsITGzXd0?t=34>

Technical overview

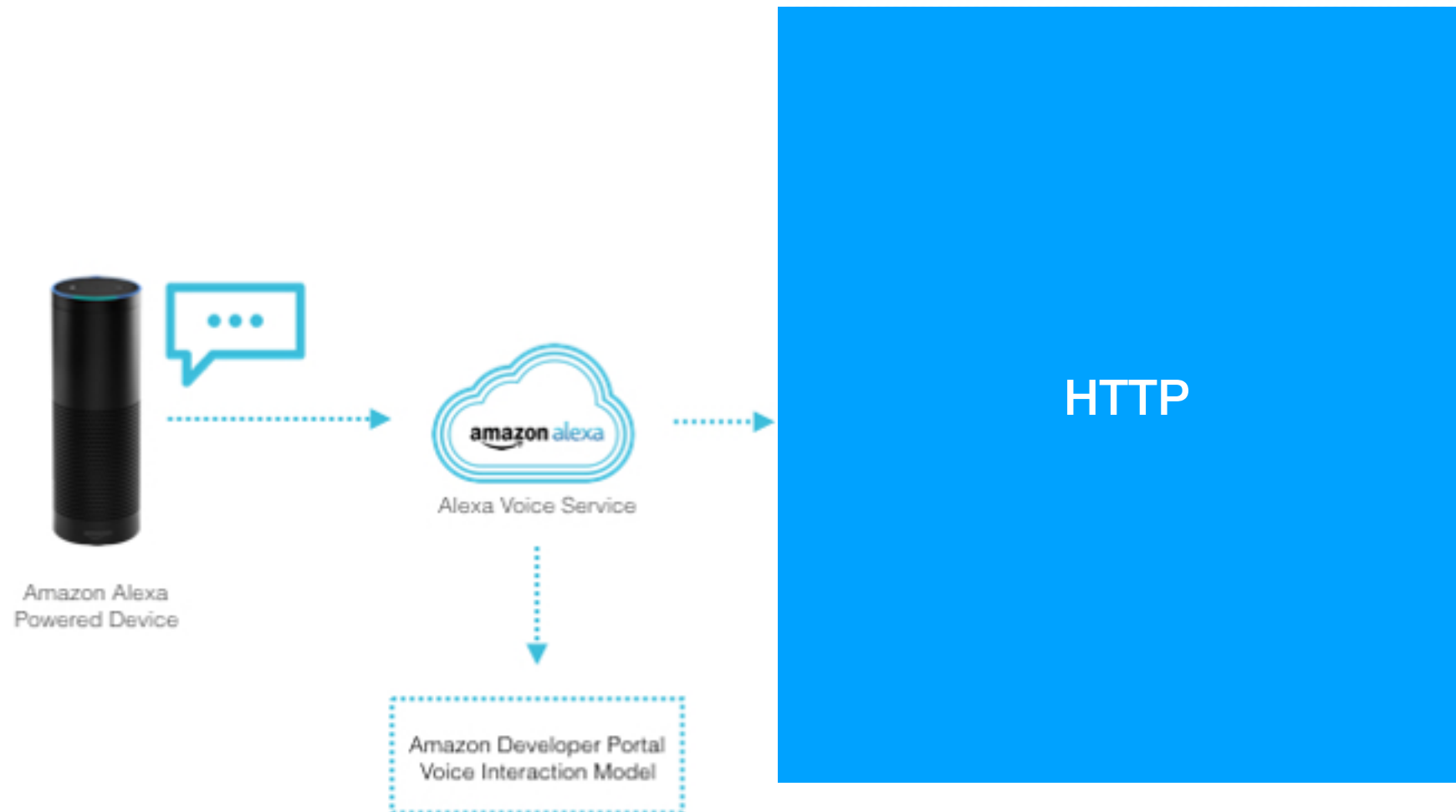
- Automatic Speech Recognition
- Natural Language Understanding
- ...leading to some Desired Outcome



Technical overview



Technical overview





“Utterances” and “Intents”

(Understood language and outcomes)

Intents

= What can the user do?

Example: Egg Tracker

Users can...

1. Store a record when hens lay eggs
2. Retrieve records in summary form

Intents

1. Store a record when hens lay eggs: **LogEntry**
2. Retrieve records in summary form: **ShowStats**

(show Egg Tracker configuration)

Utterances

= What will the user say?

Utterances

how many eggs

tell how many eggs

what is the egg count

how many eggs has the chicken laid

tell how many eggs the chickens have laid

tell me how many eggs have we gotten

how many eggs have we collected

how many eggs have we gathered

how many eggs have the hens laid

how many eggs have the chickens laid

tell me how many eggs the hens have laid

tell me how many eggs the chickens have laid

tell how many eggs the hens have laid

tell me how many eggs has the hen laid

tell me how many eggs has the chicken laid

tell how many eggs has the hen laid

tell how many eggs has the chicken laid

how many eggs has the hen laid

tell me how many eggs the hen has laid

tell me how many eggs the chicken has laid

Utterance slots

{count} eggs
record {count} egg
our chicken laid {count} eggs
I gathered {count} more eggs
we gathered {count} egg
we gathered {count} eggs
we gathered {count} more egg
we gathered {count} more eggs
{count} egg laid
{count} egg found
{count} egg gathered
{count} egg collected
{count} eggs laid
{count} eggs found
{count} eggs gathered
{count} eggs collected
record {count} egg laid
record {count} egg found
record {count} egg gathered
record {count} egg collected

(show Egg Tracker configuration details)

(Other) Intents

e.g. **AMAZON.HelpIntent**

<https://developer.amazon.com/docs/custom-skills/implement-the-built-in-intents.html>



(Skills!)

(show Egg Tracker test console example)

Creating a skill

1. “Invocation” (= name)
2. Utterances for each intent
3. API endpoint (HTTP URL)
4. [Catalog/marketing stuff]

(create a new skill via Alexa console)

Creating a skill

1. “Invocation” (= name)
2. Utterances for each intent
3. API endpoint (HTTP URL)
4. [Catalog/marketing stuff]

(cookie-cutter) Creating a skill

- Flash briefing
- Video/music
- Smart home
- etc.

(cookie-cutter) **Creating a skill**

**Pre-built models with different APIs,
different configuration**

Creating a custom skill:

node.js alexa-sdk

(walk through Egg Tracker lambda implementation)

Creating a custom skill:

HTTP in Python

(play with local “raw” Python server)

Links



Alexa docs:

<https://developer.amazon.com/alexa-skills-kit>



Egg Tracker:

<https://github.com/natevw/chickening-alexa>



Hanford Friday:

<https://github.com/natevw/hanfordfriday-alexa>