DRUPAL, ALEXA, AND BIG MOUTH BILLY BASS WALK INTO A BAR

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About us

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Drupalize.Me
@blakehall

WHAT WE'LL COVER...

- ALEXA SKILLS: CONCEPTS & PROCESS
- 3 IMPLEMENTATION APPROACHES
- DEMO: STARRING BIG MOUTH BILLY BASS AS "ALEXA"

TYPES OF SKILLS

- CUSTOM SKILLS
- SMART HOME SKILLS API
- FLASH BRIEFING SKILL API

YOU WILL BE...

- READY TO CREATE YOUR OWN CUSTOM ALEXA SKILL!
- WITH OR WITHOUT DRUPAL
- USING AWS LAMBDA OR CUSTOM WEB SERVICES ENDPOINT

DESIGN A VOICE USER INTERFACE

“ALEXA ASK FISH JOKES FOR A SILLY JOKE”

FLOW DIAGRAM

Alexa, ask Fish Jokes for a [silly] joke.

Return a joke tagged with term “silly” from fishjokes4.life (Drupal site)

ACTIVATION
INVOCATION
UTTERANCE
INTENT

ALEXA
ASK FISH JOKES
FOR A SILLY JOKE

Activation

ALEXA

ASK FISH JOKES FOR A SILLY JOKE

ACTIVATION

- ALEXA, ECHO, AMAZON, OR COMPUTER
- FIXED BY AMAZON
- CAN'T BE CUSTOMIZED
- CONFIGURABLE BY DEVICE

Invocation

Activation

ALEXA

ASK FISH JOKES

FOR A SILLY JOKE

INVOCATION

- "OPEN", "LAUNCH", "ASK" + YOUR SKILL NAME
- HOW YOUR SKILL IS OPENED

Invocation

Activation

ALEXA

ASK FISH JOKES

FOR A SILLY JOKE

Utterance & Intent

UTTERANCES

- THE PHRASES YOUR SKILL WILL RECOGNIZE
- THINK ABOUT THE VARIABLES YOU NEED (SLOTS)

INTENTS

- MAP UTTERANCES TO FUNCTIONALITY
- SOME ARE BUILT IN (HELP, STOP, CANCEL)

Invocation

Activation

ALEXA

ASK FISH JOKES

FOR A SILLY JOKE

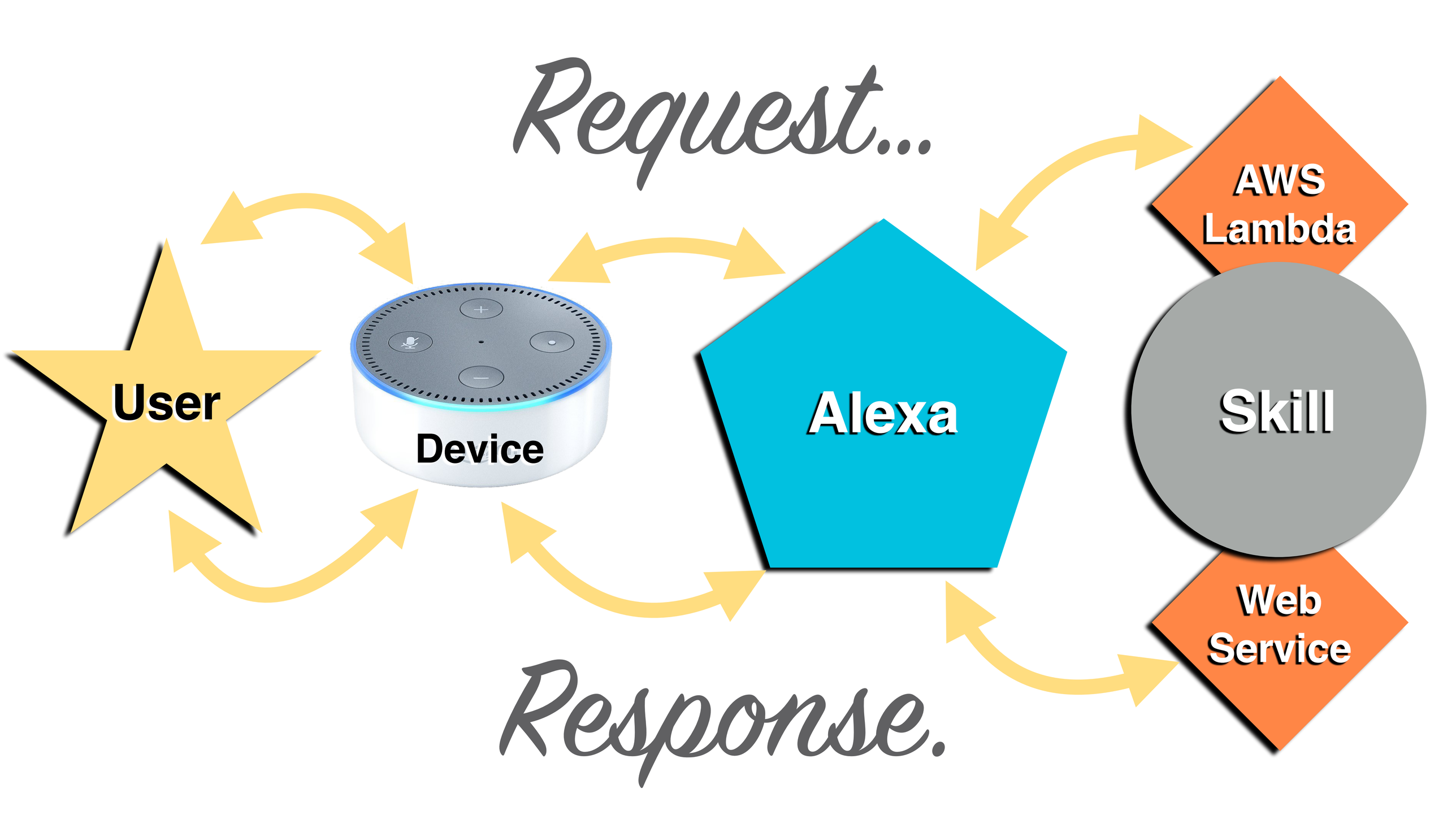
Utterance & Intent

DESIGN THE INTERACTION MODEL

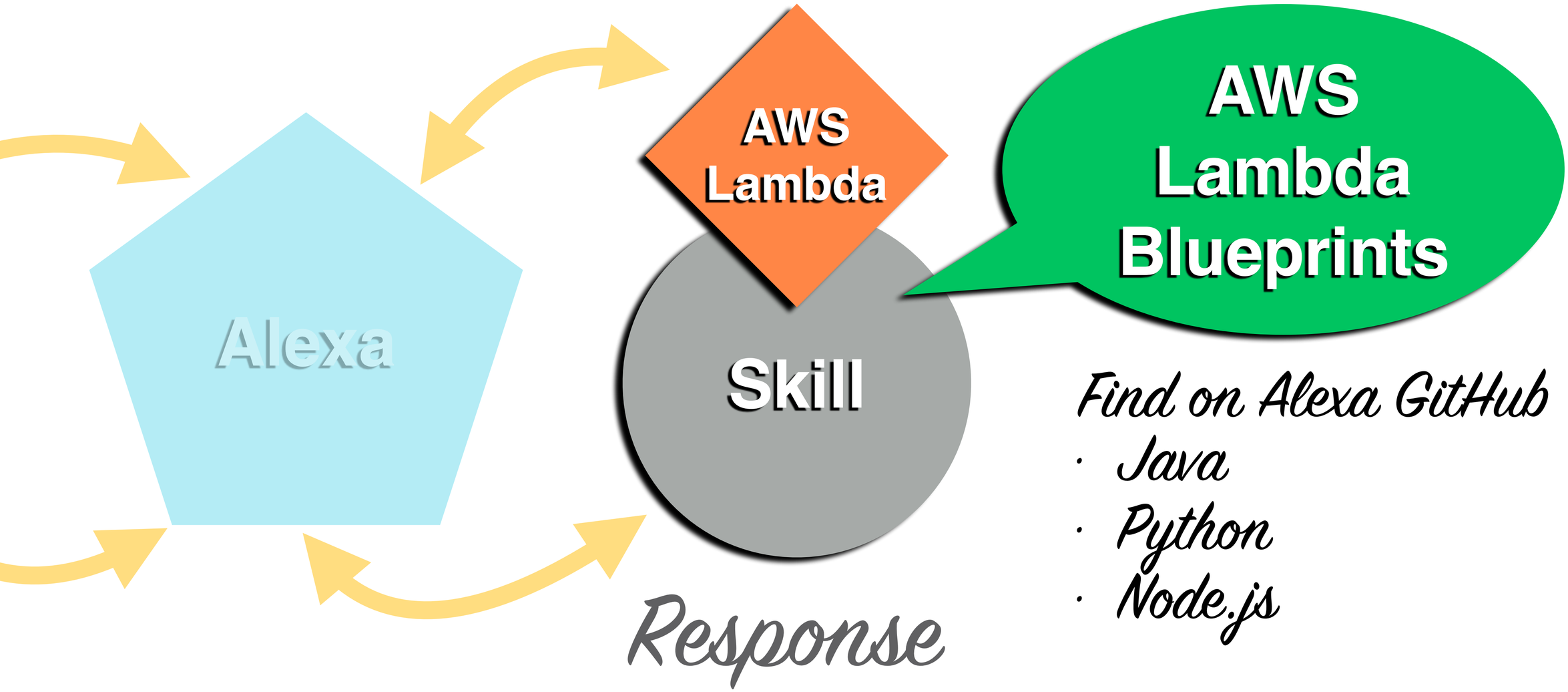
START WITH UTTERANCES

- PRIMARY INTERACTION METHOD
- DEFINES INTERACTION MODEL
- SUPPORT SEVERAL INTENTS

CUSTOM SKILLS


Request...
User
Device
Alexa
AWS Lambda
Skill
Web Service
Response.

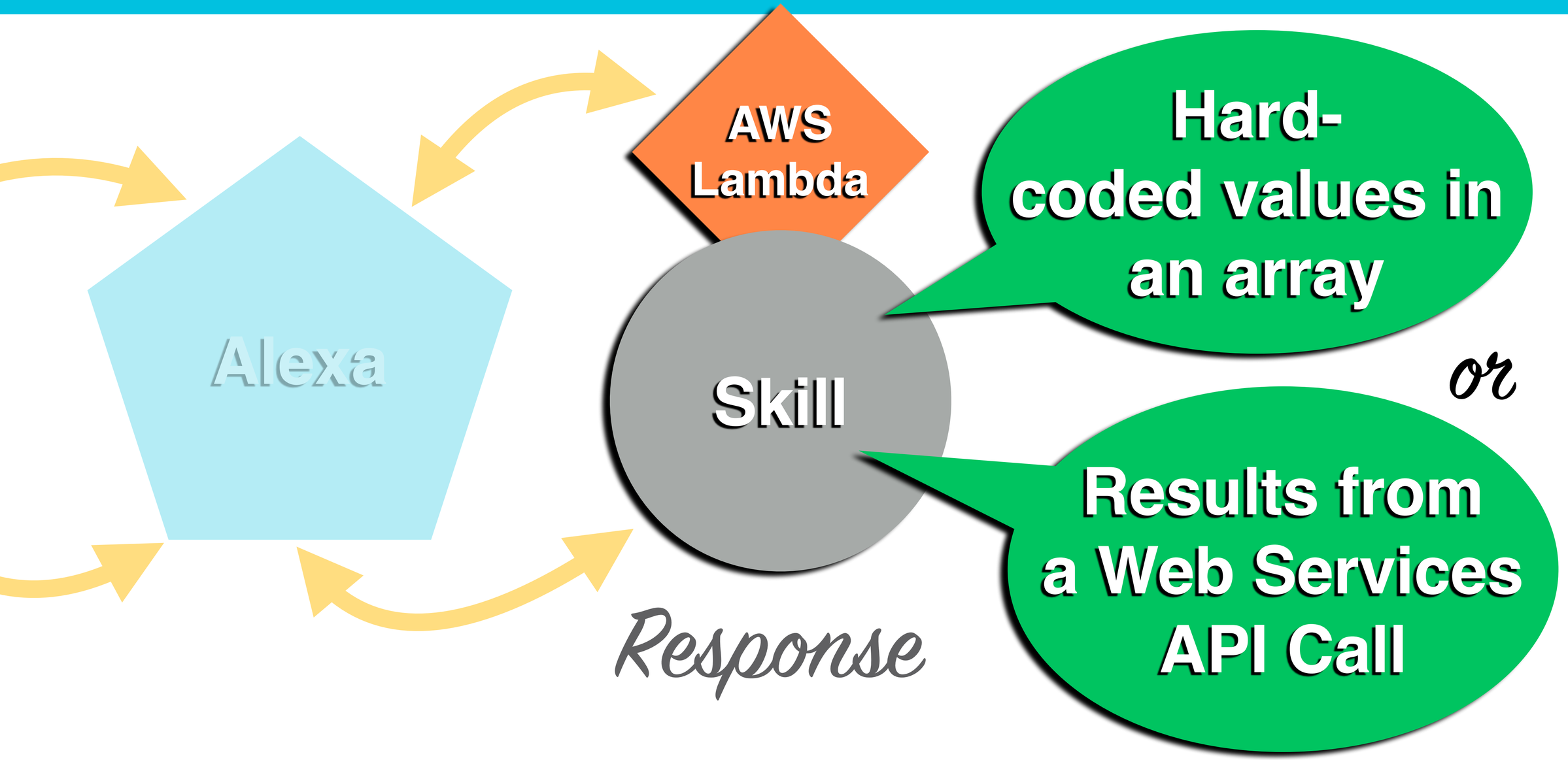
LAMBDA BLUEPRINTS



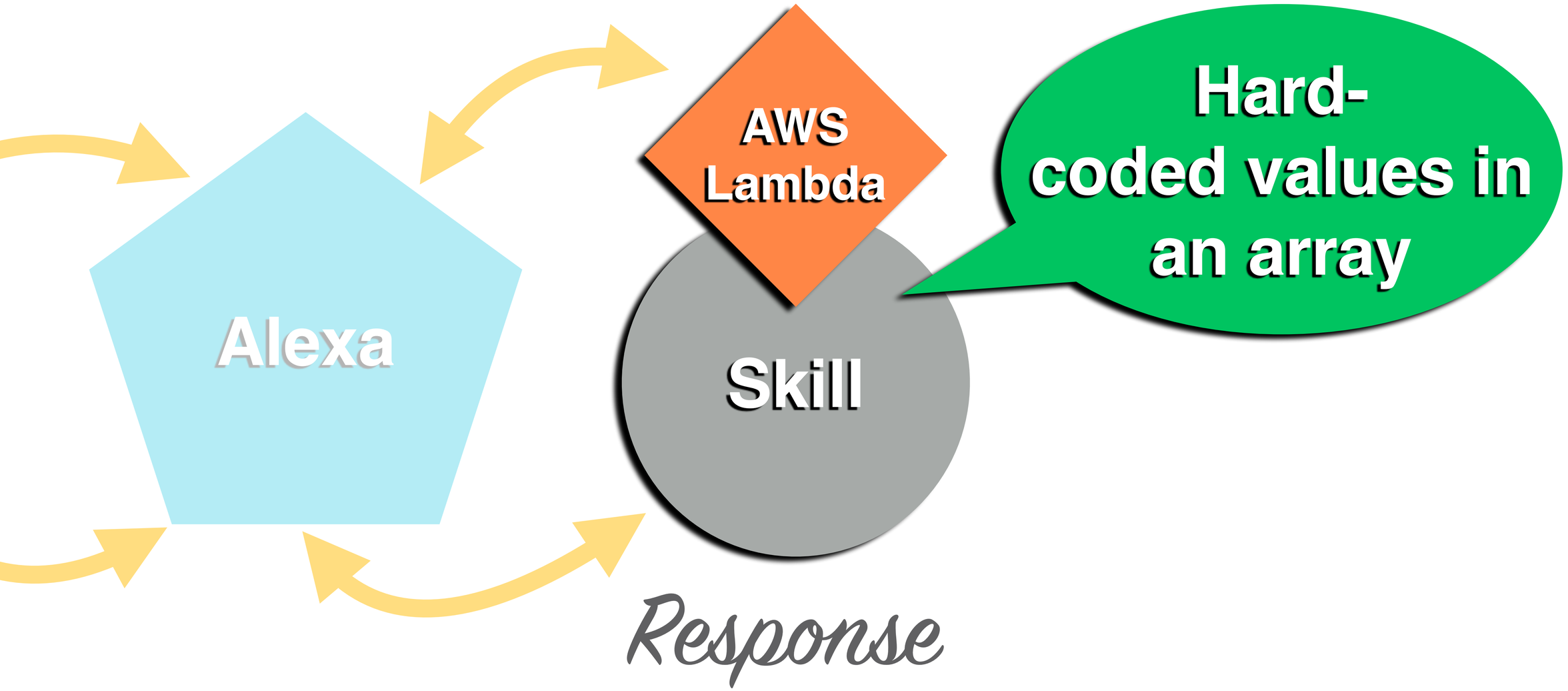
Find on Alexa GitHub

- *Java*
- *Python*
- *Node.js*

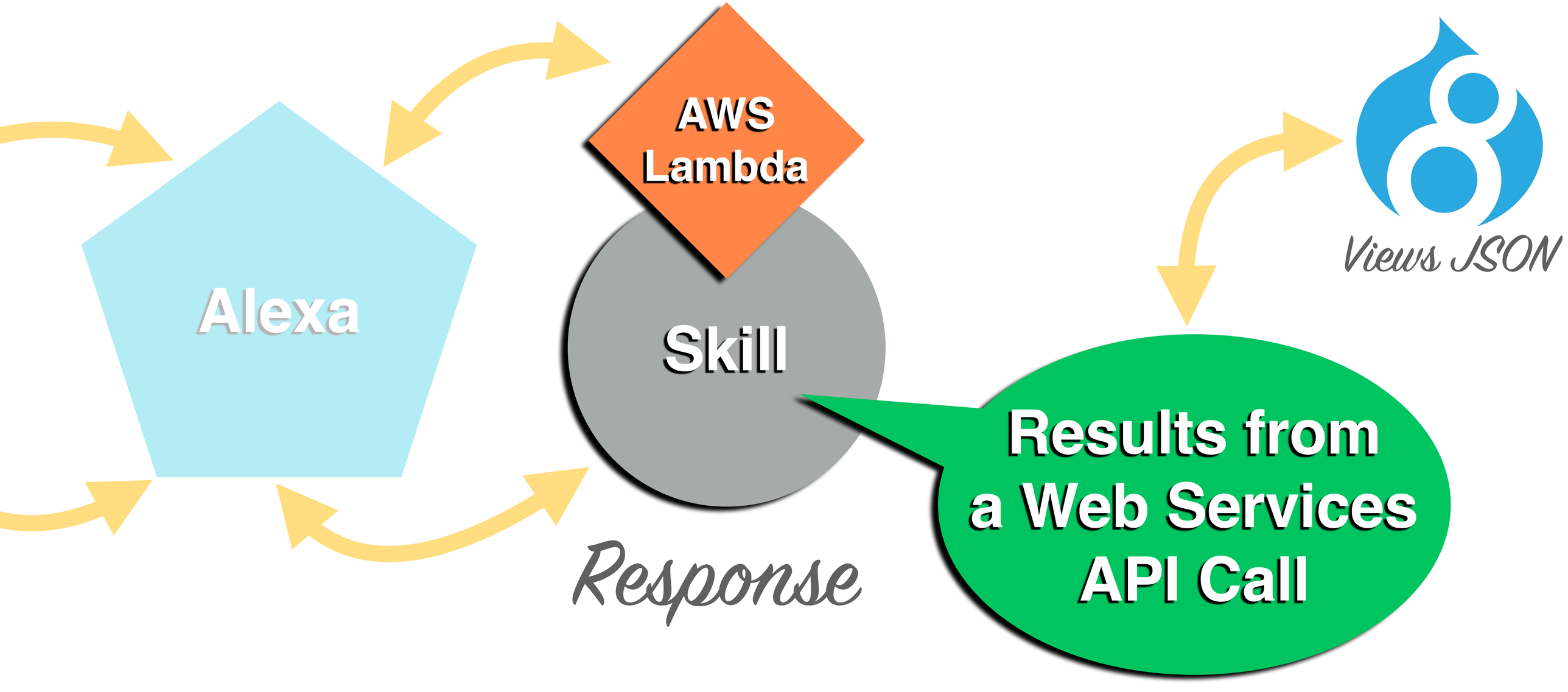
LAMBDA DATA SOURCES



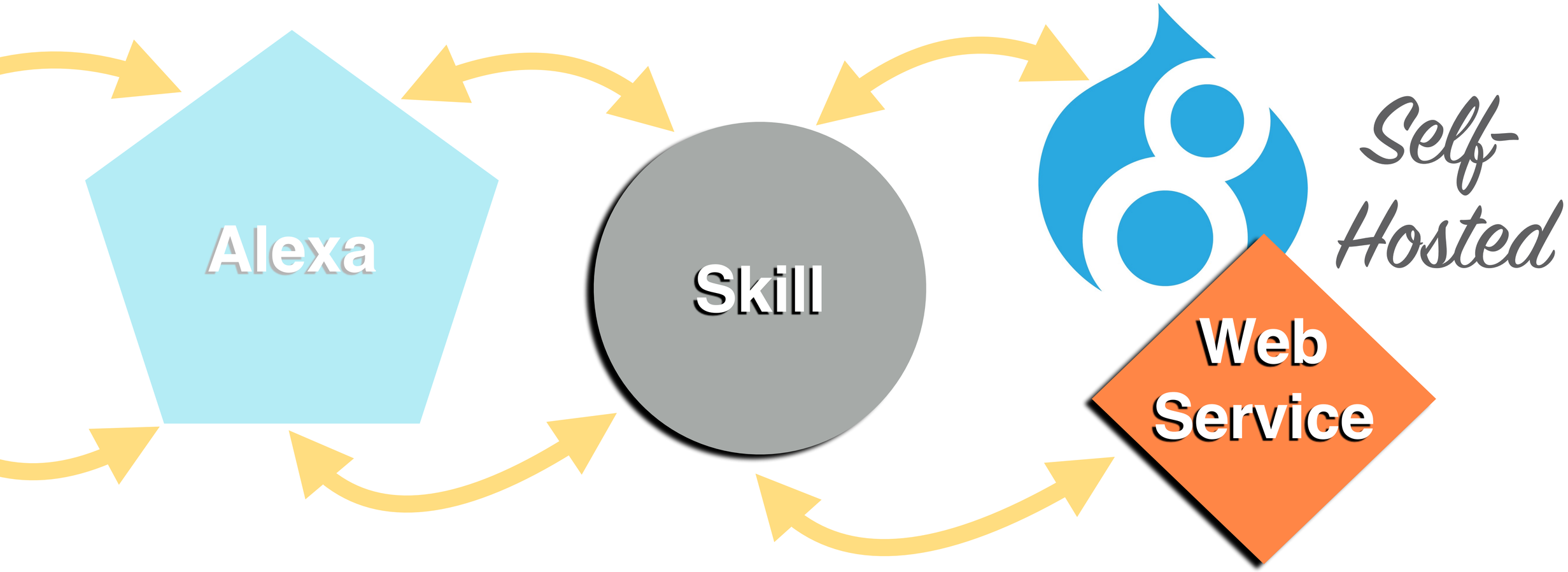
HARD-CODED VALUES



WEB SERVICES API CALL



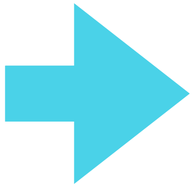
ALL DRUPAL

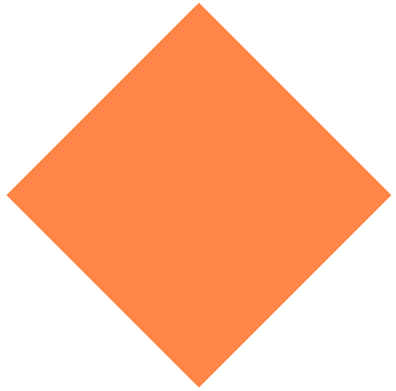


CREATING A CUSTOM ALEXA SKILL

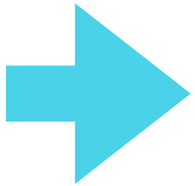
GET READY TO ROCK

Create an **Amazon Developer Account**





Sign in to **developer.amazon.com**



Get started > **Alexa Skills Kit**

LOCATE THE DOCS

amazon // DEVELOPER CONSOLE

AMBER MATZ – AMBER MATZ | SIGN OUT | ENGLISH

DASHBOARD | APPS & SERVICES | ALEXA | REPORTING | SUPPORT | DOCUMENTATION | SETTINGS

Building Alexa Skills with the Alexa Skills Kit

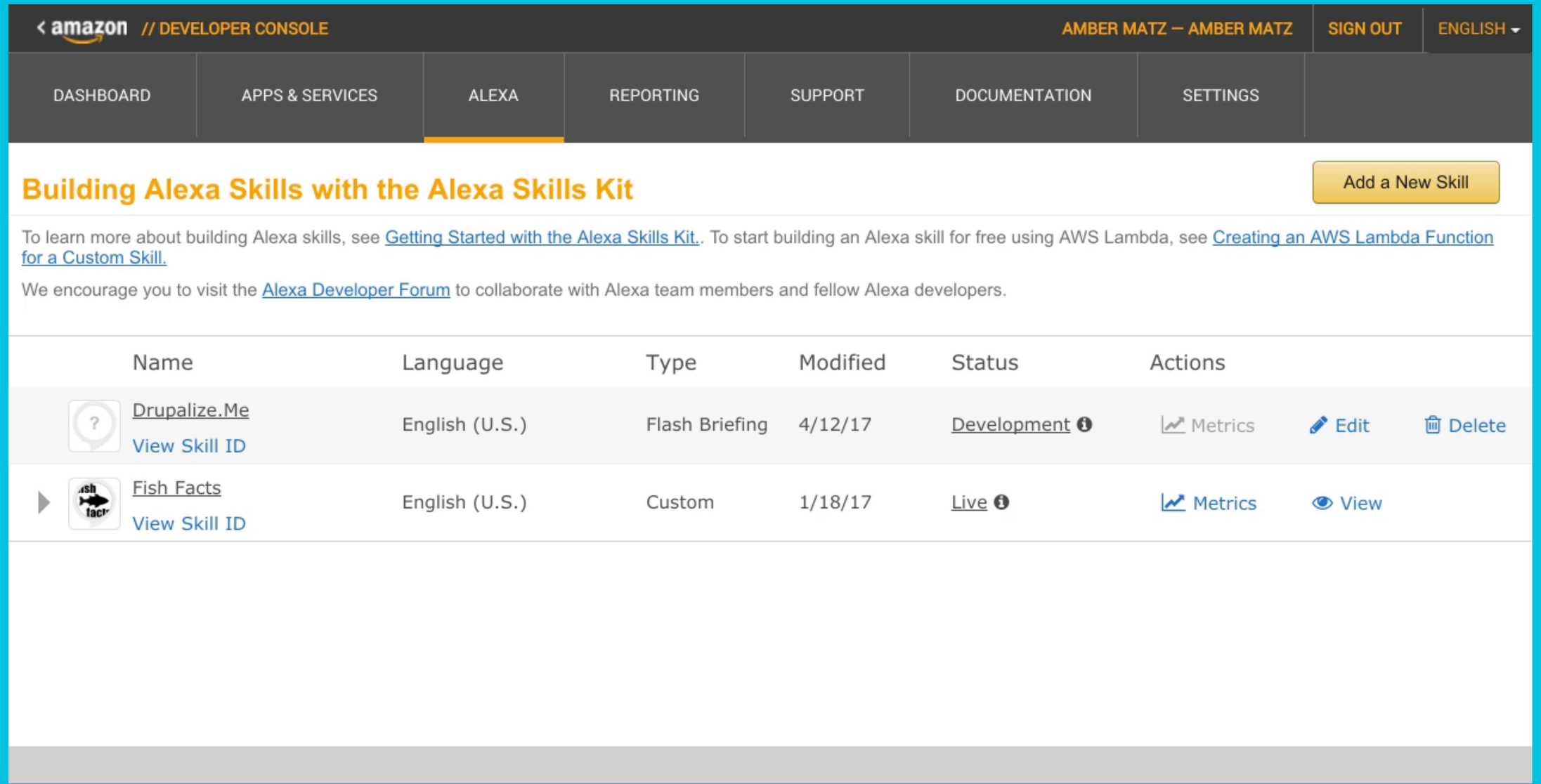
Add a New Skill

To learn more about building Alexa skills, see Getting Started with the Alexa Skills Kit.. To start building an Alexa skill for free using AWS Lambda, see Creating an AWS Lambda Function for a Custom Skill.

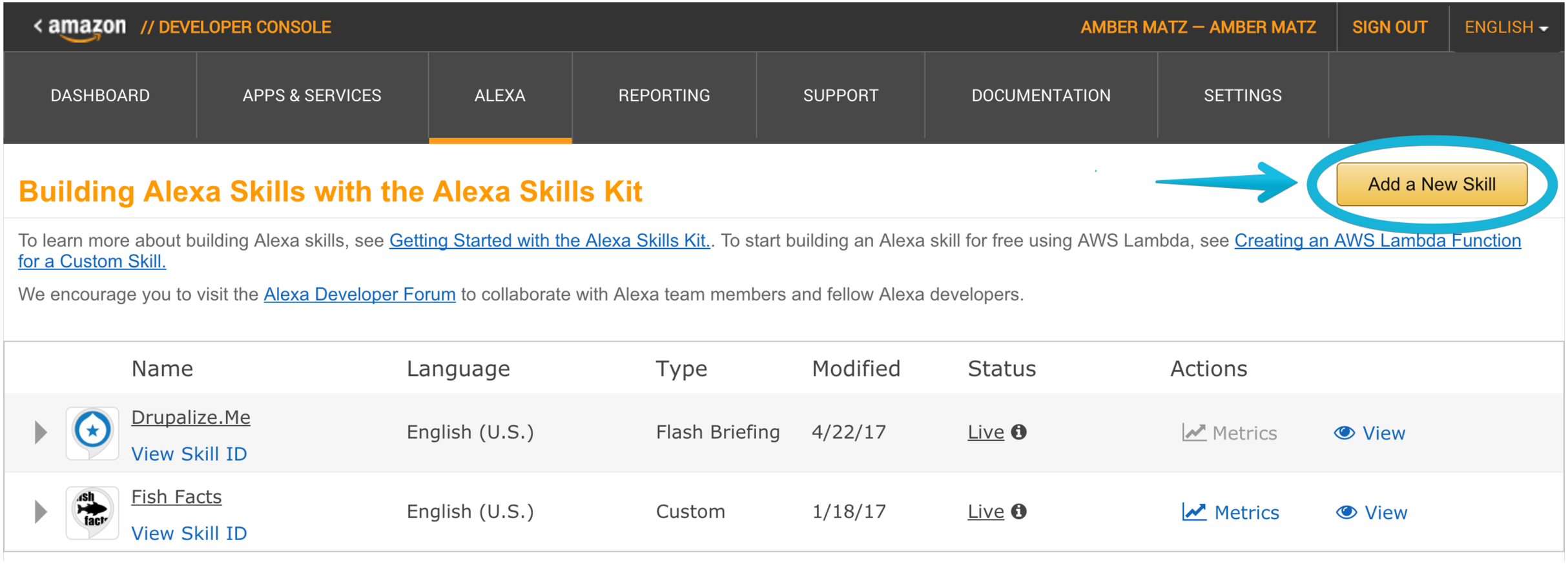
We encourage you to visit the Alexa Developer Forum to collaborate with Alexa team members and fellow Alexa developers.

Name	Language	Type	Modified	Status	Actions
Drupalize.Me View Skill ID	English (U.S.)	Flash Briefing	4/12/17	Development	Metrics Edit Delete
Fish Facts View Skill ID	English (U.S.)	Custom	1/18/17	Live	Metrics View

CUSTOM SKILLS DOCS



ADD A NEW SKILL



CONFIGURATION

- CREATED IN DEVELOPER PORTAL
- SO THAT: ALEXA CAN ROUTE REQUESTS TO THE SERVICE FOR YOUR SKILL
- BRINGS ALL SKILL COMPONENTS TOGETHER

INVOCATION NAME

- IDENTIFIES THE SKILL
- USER INCLUDES THIS NAME WHEN INITIATING A CONVERSATION WITH YOUR SKILL
- MUST BE UNIQUE

SKILL INFORMATION

English (U.S.)

- Skill Information
- Interaction Model
- Configuration
- Publishing Information
- Privacy & Compliance

Skill Type
Define a custom interaction model or use one of the predefined skill APIs. Learn more
Custom

Language
Language of your skill
English (U.S.)

Application Id
The ID for this skill
amzn1.ask.skill.ec05

Name
Name of the skill that is displayed to customers in the Alexa app. Must be between 2-50 characters.
Fish Facts

Invocation Name
The name customers use to activate the skill. For example, "Alexa ask Tide Pooler...".
Invocation Name Guidelines
fish facts

Invocation Name

INTERACTION MODEL

- INTENTS
- SLOTS
- UTTERANCES

INTERACTION MODEL

amazon // DEVELOPER CONSOLE | AMBER MATZ – AMBER MATZ | SIGN OUT | ENGLISH

DASHBOARD | APPS & SERVICES | ALEXA | REPORTING | SUPPORT | DOCUMENTATION | SETTINGS

< Back to All Skills | Getting Started

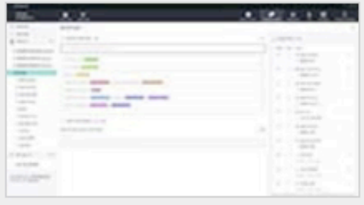
Fish Facts

Custom

ID: amzn1.ask.skill.ec05a5c1-bd82-497a-8f9c-082ac64e9d1c

English (U.S.)

- Skill Information
- Interaction Model
- Configuration
- Publishing Information
- Privacy & Compliance



Try the skill builder (beta), an intuitive interface for building your interaction model and creating dialog prompts.

Launch Skill Builder BETA

Intent Schema

The schema of user intents in JSON format. For more information, see Intent Schema.
Also see built-in slots and built-in intents.

```
2  "intents": [
3    {
4      "intent": "GetNewFactIntent"
5    },
6    {
```

SAMPLE UTTERANCES

- WORDS/PHRASES USERS SAY TO INVOKE INTENTS
- YOU MAP UTTERANCES TO INTENTS
- THIS MAP FORMS THE INTERACTION MODEL

SAMPLE UTTERANCES

Sample Utterances

These are what people say to interact with your skill. Type or paste in all the ways that people can invoke the intents. Learn more

Up to 3 of these will be used as Example Phrases, which are hints to users.

```
GetNewFactIntent a fact
GetNewFactIntent tell me a fish fact
GetNewFactIntent tell me a fact
GetNewFactIntent give me a fish fact
GetNewFactIntent give me a fact
GetNewFactIntent tell me fish trivia
GetNewFactIntent tell me trivia
GetNewFactIntent give me fish trivia
GetNewFactIntent give me trivia
GetNewFactIntent give me some fish information
GetNewFactIntent give me some information
```

without slots

SAMPLE UTTERANCES

Sample Utterances

These are what people say to interact with your skill. Type or paste in all the ways that people can invoke the intents. Learn more

Up to 3 of these will be used as Example Phrases, which are hints to users.

```
GetCategorizedJokes tell me a joke about {Category}
GetCategorizedJokes tell me a {Category} joke
GetCategorizedJokes tell me a {Category} fish joke
GetCategorizedJokes tell me a {Category} joke about fish
GetCategorizedJokes tell me a {Category} joke about fishing
GetCategorizedJokes give me a joke about {Category}
GetCategorizedJokes give me a {Category} joke
GetCategorizedJokes give me a {Category} fish joke
GetCategorizedJokes give me a {Category} joke about fish
GetCategorizedJokes give me a {Category} joke about fishing
GetCategorizedJokes get me a joke about {Category}
```

with slots

SAMPLE UTTERANCES

Custom intent

```
GetCategorizedJokes tell me a joke about {Category}
GetCategorizedJokes tell me a {Category} joke
GetCategorizedJokes give me a joke about {Category}
GetCategorizedJokes give me a {Category} joke
GetCategorizedJokes joke about {Category}
GetCategorizedJokes jokes about {Category}
GetCategorizedJokes for a {Category} joke
GetCategorizedJokes for {Category} jokes
```

Custom intent

```
GetFishJokes tell me a joke
GetFishJokes give me a joke
GetFishJokes get me a joke
GetFishJokes joke
GetFishJokes jokes
```

Custom slot type

SAMPLE UTTERANCES

GUIDELINES:

- DO NOT INCLUDE "ALEXA", "AMAZON", "ECHO", ETC.
- DO NOT INCLUDE THE NAME OF YOUR SKILL

SAMPLE UTTERANCES

GUIDELINES:

- DO INCLUDE A VARIETY OF PHRASES
- DO INCLUDE "SLOT NAMES" IN CURLY BRACKETS

INTENTS

REPRESENT:

- ACTIONS USERS CAN DO WITH YOUR SKILL
- CORE FUNCTIONALITY

INTENT SCHEMA

- A JSON STRUCTURE THAT DECLARES THE SET OF INTENTS YOUR SKILL CAN ACCEPT AND PROCESS

INTENT SCHEMA

TIP:

- INCLUDE BUILT-IN AMAZON INTENTS FOR COMMON ACTIONS:

  "STOP", "HELP", "CANCEL", ETC.

INTENT SCHEMA

```
{
  "intents": [
    {
      "intent": "GetNewFactIntent"
    },
    {
      "intent": "AMAZON.HelpIntent"
    },
    {
      "intent": "AMAZON.StopIntent"
    },
    {
      "intent": "AMAZON.CancelIntent"
    }
  ]
}
```

Custom intent

Amazon built-in intents

SLOTS

- OPTIONAL ARGUMENTS
- NEEDS A TYPE
- CUSTOM OR BUILT-IN

INTENT SCHEMA

```
{
  "intents": [
    {
      "intent": "GetCategorizedJokes",
      "slots": [
        {
          "name": "Category",
          "type": "LIST_OF_CATEGORIES"
        }
      ]
    },
    {
      "intent": "GetFishJokes",
    },
    {
      "intent": "AMAZON.HelpIntent"
    },
    {
      "intent": "AMAZON.StopIntent"
    },
    {
      "intent": "AMAZON.CancelIntent"
    }
  ]
}
```

Custom intent

Custom slot type

Custom intent

Amazon built-in intents

ENDPOINT

English (U.S.)

- Skill Information
- Interaction Model
- Configuration
- Publishing Information
- Privacy & Compliance

Global Fields

These fields apply to all languages supported by the skill.

Endpoint

Service Endpoint Type:

- (•) **AWS Lambda ARN (Amazon Resource Name)**
  Recommended
  AWS Lambda is a server-less compute service that runs your code in response to events and automatically manages the underlying compute resources for you.
  More info about AWS Lambda
  How to integrate AWS Lambda with Alexa
- ( ) **HTTPS**

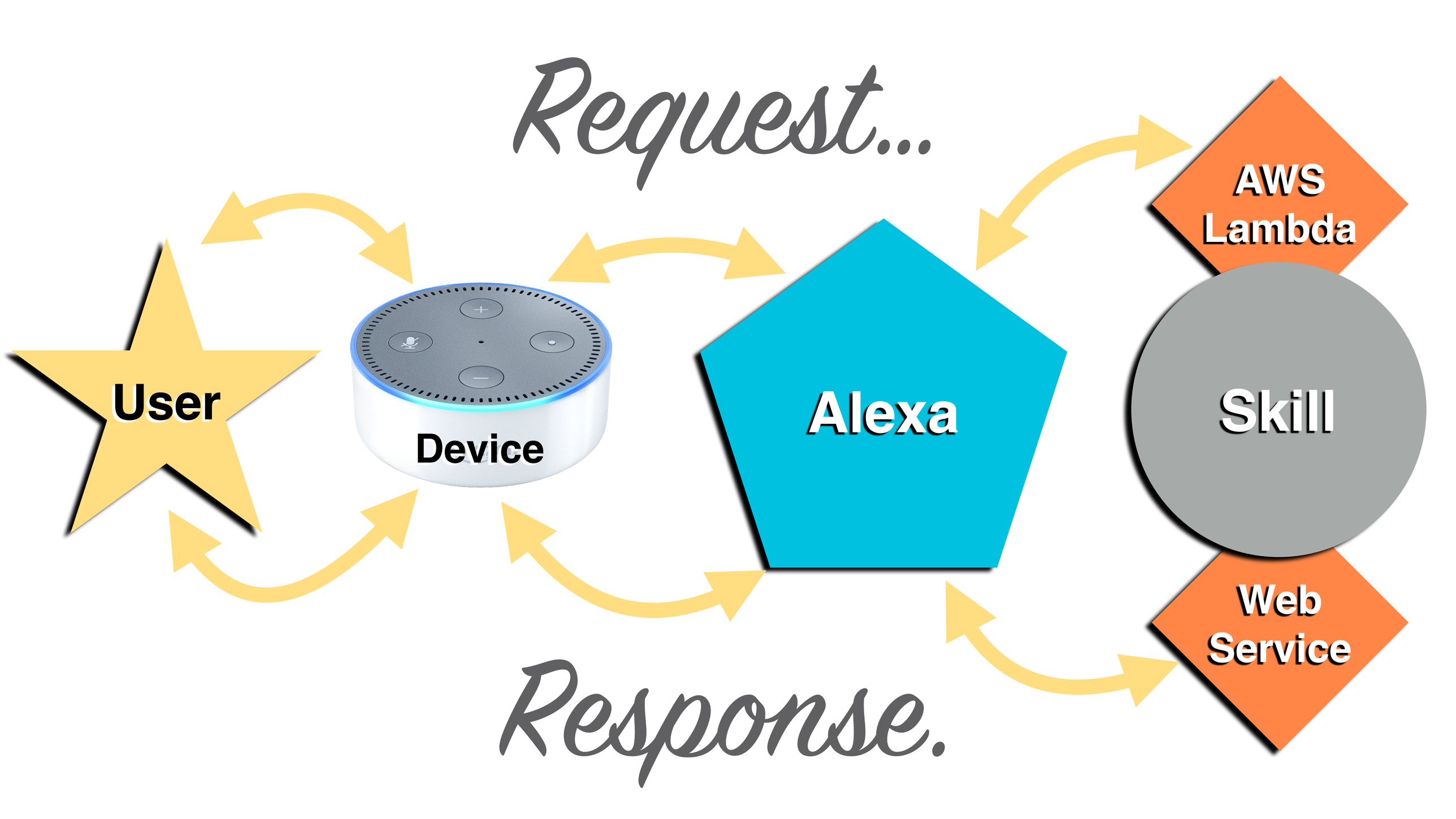
Pick a geographical region that is closest to your target customers:

- [x] North America
- [ ] Europe

North America

arn:aws:lambda:us-east-1:790747733312:function:n

ENDPOINT EXAMPLES


Request...
User
Device
Alexa
AWS Lambda
Skill
Web Service
Response.

GETTiNG STARTED

- TiP: USE SAMPLE CODE!
- REFER TO THE DOCS!
- CHECK OUT ALEXA GiTHUB!

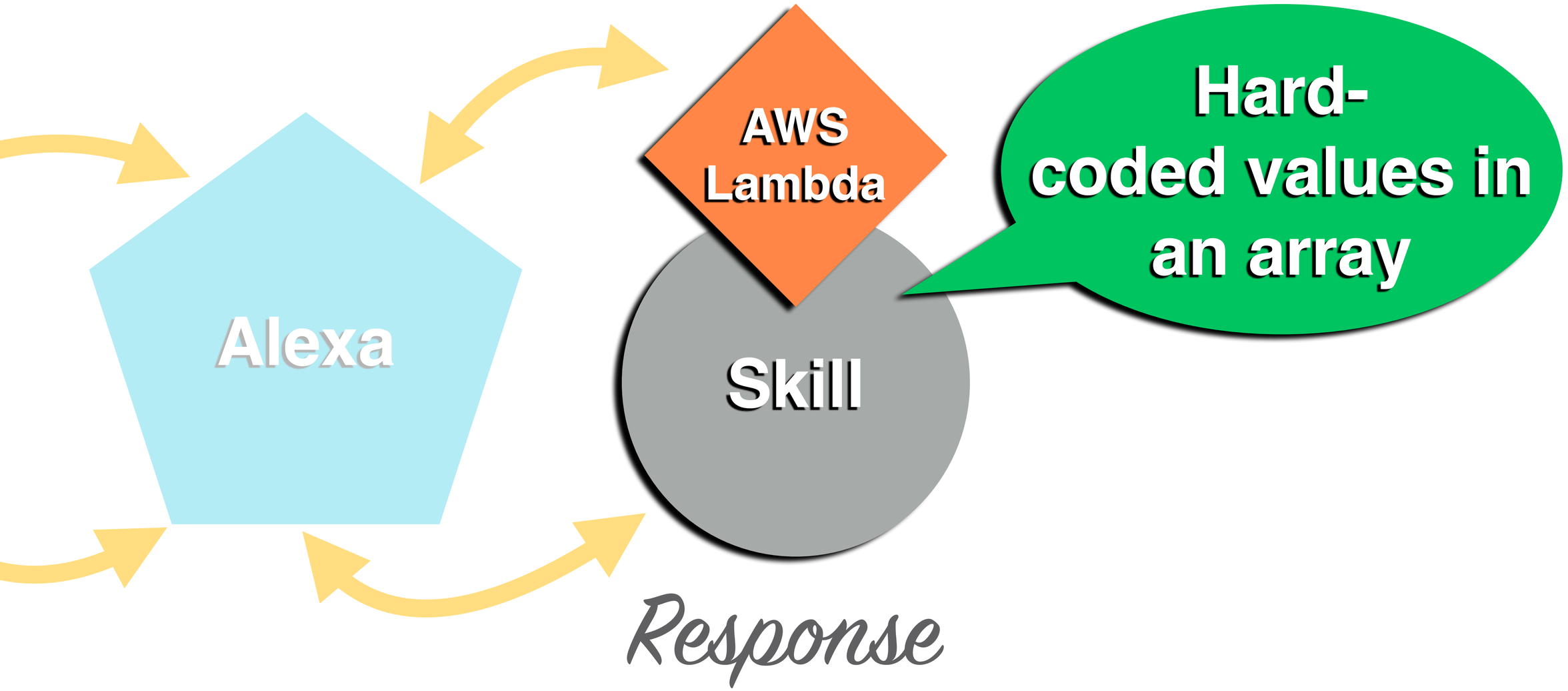
WRITE THE CODE

USING AWS LAMBDA?

- NODE.JS
- JAVA
- PYTHON

SIMPLE EXAMPLE

HARD-CODED VALUES



INTENT SCHEMA

```
{
  "intents": [
    {
      "intent": "AMAZON.CancelIntent"
    },
    {
      "intent": "AMAZON.HelpIntent"
    },
    {
      "intent": "AMAZON.StopIntent"
    },
    {
      "intent": "GetNewFactIntent"
    }
  ]
}
```

UTTERANCES

```
1  GetNewFactIntent tell me a joke
2  GetNewFactIntent give me a joke
3  GetNewFactIntent make me laugh
4
```

```
'use strict';

const Alexa = require('alexa-sdk');

const APP_ID = ''; // Replace this with your Amazon Skill ID

const languageStrings = {
    'en-US': {
        translation: {
            JOKES: [
                'The black basses, such as the Choctaw bass, Guadalupe bass, largemouth bass, smallmouth bass, and spotted bass, belong to the sunfish family, Centrarchidae.',
                'The temperate basses, such as the European seabass, striped bass, and white bass, belong to the family Moronidae.',
                'The Asian seabasses, such as the Japanese seabass, and Blackfin seabass, belong to the family Lateolabracidae.',
                'The word bass comes from Middle English bars, meaning perch.',
                'Largemouth bass and smallmouth bass are the most popular game fish in North America.',
                'Bass, the name of various trimly shaped, active, gamey fishes of both fresh and salt water, mostly in northern regions.',
                'The well-known striped bass or rock fish, of the northeastern Atlantic, approaches the coast and enters fresh water only at spawning time when it ascends the rivers.',
                'The most important of the American freshwater bass are the big mouth and small mouth black bass.',
                'The big and small mouth bass was originally confined to the waters of the upper Mississippi Valley, and Great Lakes region.',
                'In 1853, the big and small mouth bass were introduced into the head waters of the Potomac River, whence they have spread into all the rivers that empty into Chesapeake Bay.',
                'The large-mouthed bass, especially in the South, can weight as much as 14 pounds.',
                'In color, the small and large-mouth bass are dull golden-green with a bronze lustre, the scales on the cheeks are more minute than those on the body, and the dorsal fin is deeply notched.',
                'In the large-mouthed bass, the maxillary extends beyond the eye and there are 10 rows of scales on the cheeks.',
            ],
            SKILL_NAME: 'Fish Jokes',
            GET_FACT_MESSAGE: "Here's your joke: ",
            HELP_MESSAGE: 'You can say tell me a fish joke, or, you can say exit... What can I help you with?',
            HELP_REPROMPT: 'What can I help you with?',
            STOP_MESSAGE: 'Goodbye!',
        },
    },
```

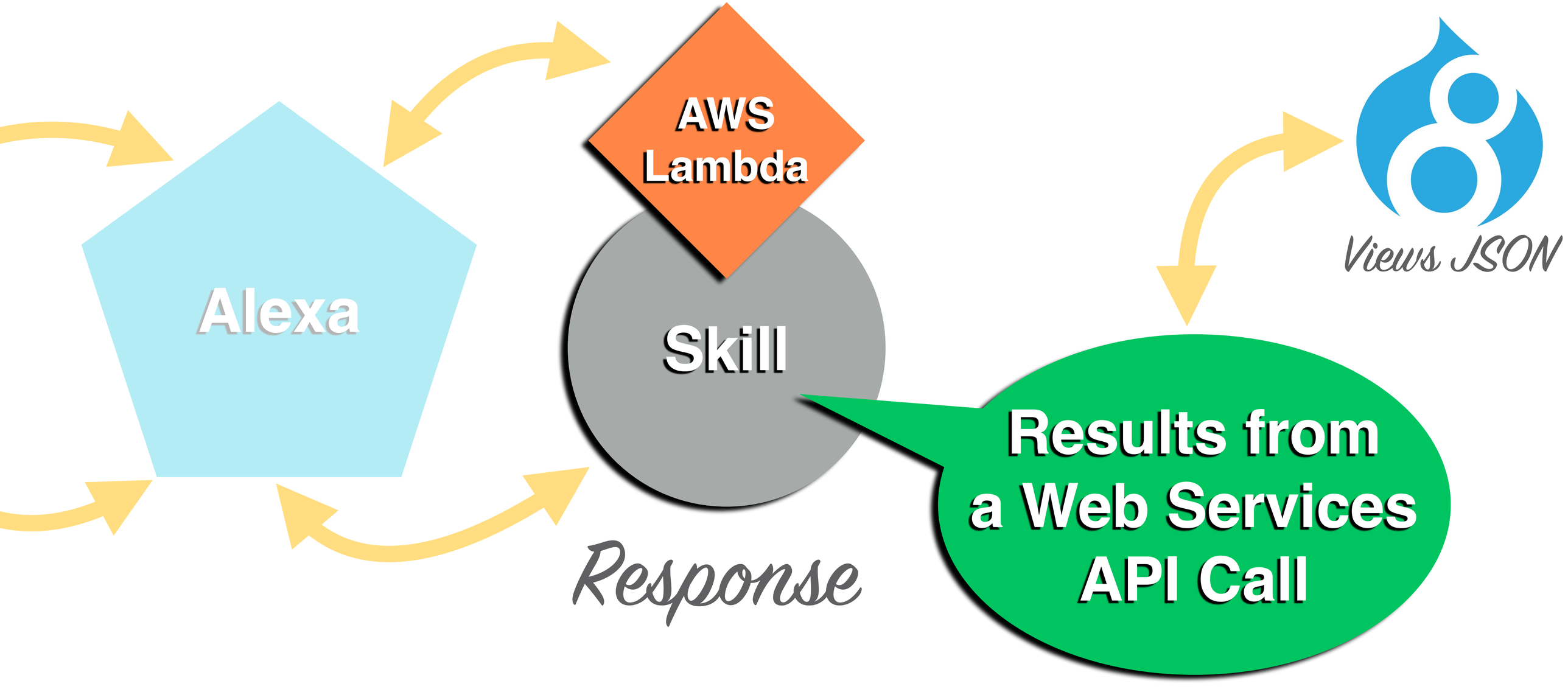
```
const handlers = {
    'LaunchRequest': function () {
        this.emit('GetJoke');
    },
    'GetNewFactIntent': function () {
        this.emit('GetJoke');
    },
    'GetJoke': function () {
        // Get a random space fact from the space facts list
        // Use this.t() to get corresponding language data
        const jokeArr = this.t('JOKES');
        const jokeIndex = Math.floor(Math.random() * jokeArr.length);
        const randomJoke = jokeArr[jokeIndex];

        // Create speech output
        const speechOutput = this.t('GET_FACT_MESSAGE') + randomJoke;
        this.emit(':tellWithCard', speechOutput, this.t('SKILL_NAME'), randomJoke);
    },
    'AMAZON.HelpIntent': function () {
        const speechOutput = this.t('HELP_MESSAGE');
        const reprompt = this.t('HELP_MESSAGE');
        this.emit(':ask', speechOutput, reprompt);
    },
    'AMAZON.CancelIntent': function () {
        this.emit(':tell', this.t('STOP_MESSAGE'));
    },
    'AMAZON.StopIntent': function () {
        this.emit(':tell', this.t('STOP_MESSAGE'));
    },
    'SessionEndedRequest': function () {
        this.emit(':tell', this.t('STOP_MESSAGE'));
    },
};

```

WEB SERVICE

WEB SERVICES API CALL



INTENT SCHEMA

```
{
  "intents": [
    {
      "intent": "AMAZON.CancelIntent"
    },
    {
      "intent": "AMAZON.HelpIntent"
    },
    {
      "intent": "AMAZON.StopIntent"
    },
    {
      "intent": "GetNewFactIntent"
    }
  ]
}
```

UTTERANCES

```
1  GetNewFactIntent tell me a joke
2  GetNewFactIntent give me a joke
3  GetNewFactIntent make me laugh
4
```

```
    'GetJoke': function () {
        var alexa = this;
        var https = require('https');

        var options = {
            host: 'www.fishjokes4.life',
            path: '/joke-me-please',
            method: 'GET'
        };

        https.get(options, function(res) {
            var body = '';

            res.on('data', function(d) {
                body += d;
            });
            // After the response is completed.
            res.on('end', function() {
                var parsed = JSON.parse(body);
                //console.log(parsed);
                var title = parsed[0].title[0].value;
                var punchline = parsed[0].field_punchline[0].value;
                //var image = parsed[0].field_image[0].url;
                var speechOutput = title + ' ' + punchline;
                alexa.emit(':tell', speechOutput);
            });
        })
        // If any errors have occured log them.
        .on('error', function(e) {
            console.log('Got error: ' + e.message);
        });
    },
```

API Endpoint

Parse the response

Views REST export

Displays

Page | REST export* | Add

Display name: REST export

TITLE

Title: Joke Me

FORMAT

Format: Serializer / *Settings*

Show: Entity

FIELDS

The selected style or row format does not use fields.

FILTER CRITERIA Add

Content: Publishing status (= Yes)

Content: Content type (= Joke)

SORT CRITERIA Add

Global: Random (asc)

PATH SETTINGS

Path: /joke-me-please

Authentication: No authentication is set

Access: Permission | View published content

HEADER

The selected display type does not use header plugins

FOOTER

The selected display type does not use footer plugins

NO RESULTS BEHAVIOR

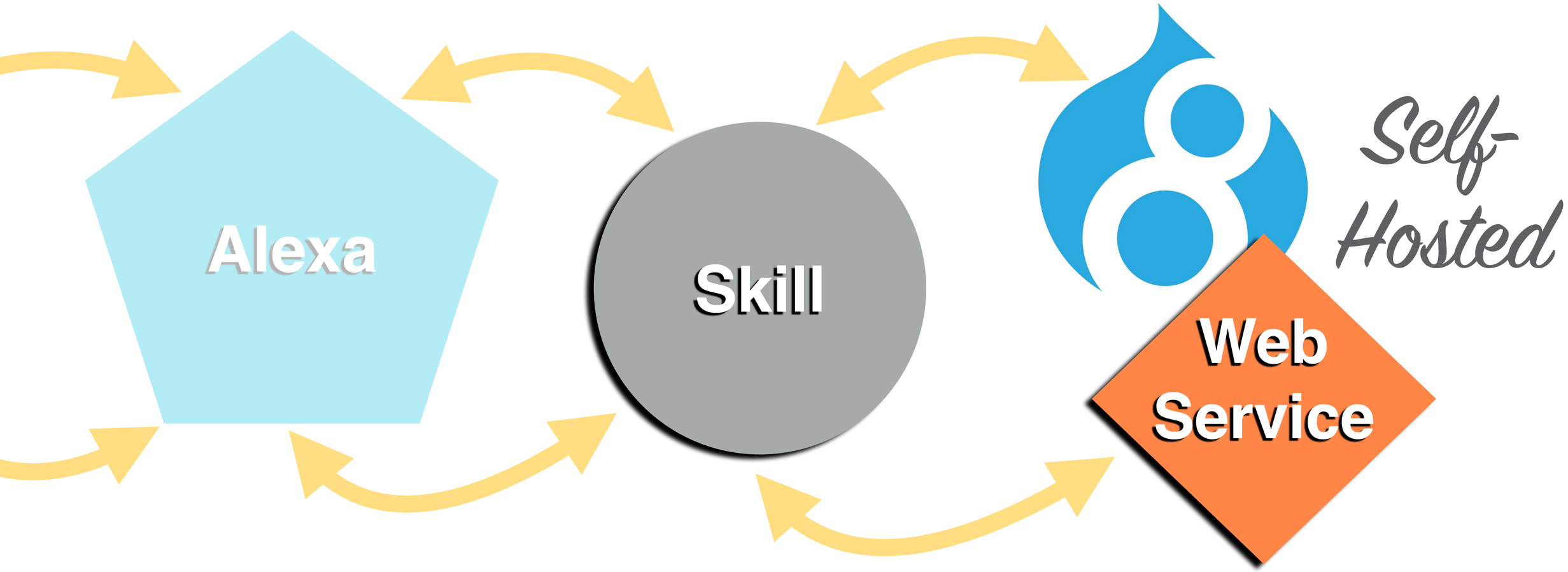
The selected display type does not use empty plugins

PAGER

Items to display: Display a specified number of items | 10 items

ALL DRUPAL
(NO LAMBDA)

ALL DRUPAL



THERE'S A MODULE FOR THAT!

Drupal™

Download & Extend

Add Issues for Alexa to dashboard +

Drupal Core | Distributions | **Modules** | Themes

Alexa

View | Version control | View history | Automated testing

Posted by meba on *6 April 2016*

Star | No mail

This project is not covered by Drupal's security advisory policy.

This is an integration module for Amazon Echo devices, allowing Drupal to respond to Alexa Skills Kit requests. Right now the module provides only a basic integration. Developers will need to create their own customized handler module (see the included alexa_demo module for an example) to handle custom Alexa skills. Events integration is coming soon.

Installation

The installation is very easy, follow this step by step guide for a basic application

Uses the Amazon Alexa PHP library from Composer: https://github.com/jakubsuchy/amazon-alexa-php

Maintainers for Alexa

hampercm – 8 commits
last: 7 months ago, first: 7 months ago

View all committers
View commits

Issues for Alexa

To avoid duplicates, please search before submitting a new issue.

Search

Advanced search

All issues

3 open, 13 total

ALEXA MODULE CONFIG

- GIVE DRUPAL YOUR ALEXA APPLICATION ID
- GIVE ALEXA THE RESOURCE CALLBACK
- WRITE SOME CODE

```php
namespace Drupal\fishjokes\EventSubscriber;

use Drupal\alexa\AlexaEvent;
use Symfony\Component\EventDispatcher\EventSubscriberInterface;
use Symfony\Component\EventDispatcher\Event;
use Drupal\fishjokes\Response\Card;

/**
 * Class RequestSubscriber.
 *
 * @package Drupal\fishjokes
 */
class RequestSubscriber implements EventSubscriberInterface {

  /**
   * Gets the event.
   */
  public static function getSubscribedEvents() {
    // TODO: Implement getSubscribedEvents() method.
    $events['alexaevent.request'][] = array('onRequest', 0);
    return $events;
  }
```

```php
/**
 * Called upon a request event.
 *
 * @param \Drupal/alexa\AlexaEvent $event
 *    The event object.
 */
public function onRequest(AlexaEvent $event) {
  $request = $event->getRequest();
  $response = $event->getResponse();

  switch($request->intentName) {
    case 'AMAZON:HelpIntent':
      $response->respond('You can ask anything and I will respond with a fish joke.');
      break;

    default:
      // $request->intentName = 'GetCategorizedJokes';
      // See if we're getting a category specified by a slot from our Alexa request.
      $term_name = isset($request->slots['Category']) ? $request->slots['Category'] : NULL;

      $query = \Drupal::entityQuery('node');
      $joke_query = $query->condition('status', 1)
        ->condition('type', 'joke');
      // If the slot in the Alexa request is filled, include it as a filter in our query.
      if ($term_name) {
        $joke_query->condition('field_tags.entity.name', $term_name, 'IN');
      }

      $joke_nids = $joke_query->execute();
      // If we didn't find anything with our EntityQuery let's just use node 7.
      $joke_nid = count($joke_nids) === 0 ? 7 : $joke_nids[array_rand($joke_nids)];
      $joke = \Drupal\node\Entity\Node::load($joke_nid);
      $title = $joke->title->value;
      $punchline = $joke->field_punchline->value;
      $text = $title .' ' .$punchline;

      $image_file_uri = ($joke->field_image->entity) ? $joke->field_image->entity->getFileUri() :
      'public://2017-04/Shark_GreatWhiteClownMO.jpg';
      $smallImageUrl = file_create_url($image_file_uri);
```

```
65
66              // Build the card format expected by the Alexa library,
67              // but use our custom Standard Card implementation.
68              $card = new Card;
69              $card->type = 'Standard';
70              $card->title = $joke->title->value;
71              $card->text = $text;
72              $card->content = $text;
73              $card->smallImageUrl = $smallImageUrl;
74              $card->largeImageUrl = $smallImageUrl;
75              $response->card = $card;
76              // Respond by reading the text of the joke and ending the session.
77              $response->respond($text)
78                  ->endSession();
79              break;
80          }
81      }
82  }
83
```

“ALEXA ASK FISH JOKES FOR A SILLY JOKE”

Why did the shark spit out the clown?

Fish Jokes

Why did the shark spit out the clown? Because he tasted funny!

PUBLiSHiNG YOUR SKiLL

TEST YOUR SKILL

- TEST WITH SERVICE SIMULATOR (IN DEVELOPER PORTAL)
- TEST ON ALEXA-ENABLED DEVICE

CERTIFICATION

- WRITE DESCRIPTION
- CREATE + UPLOAD ICON
- SUBMISSION CHECKLIST
- CHECK EMAIL FOR FEEDBACK

CONTINUE DEVELOPMENT

AFTER SKILL "GOES LIVE":

- DEV VERSION AUTO-CREATED IN DEVELOPER PORTAL
- WORK ON DEV, SUBMIT WHEN READY
- CERTIFIED DEV VERSION REPLACES LIVE VERSION

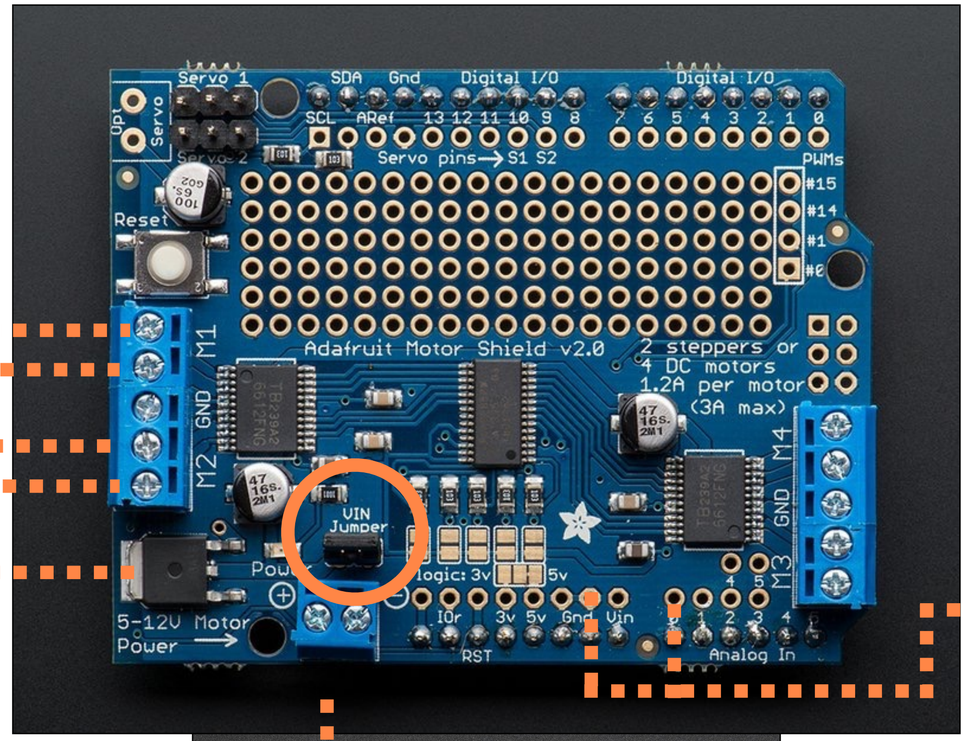
CONTINUE DEVELOPMENT

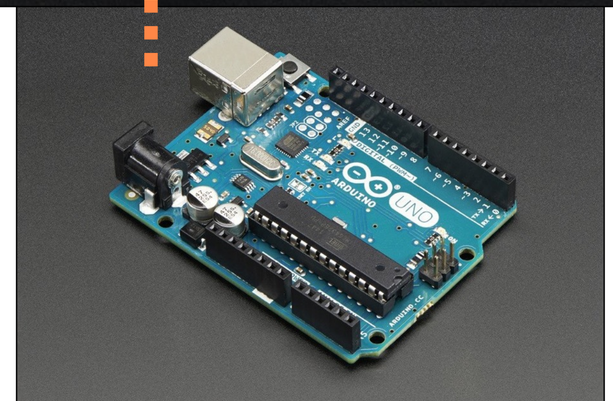
Fish Facts View Skill ID	English (U.S.)	Custom	1/18/17	Live	Metrics	View
Fish Facts	English (U.S.)	Custom	1/18/17	Development	Metrics	Edit

DEMO TIME

ECHO DOT + ARDUINO + BiG MOUTH BiLLY BASS

2 motors
connected.
1 in use.

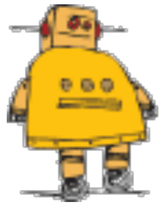




Headphone
Audio out

12v power

TUTORIAL

-  INSTRUCTABLES.COM
- "ANIMATE A BILLY BASS MOUTH WITH ANY AUDIO SOURCE"
- BY DONALD BELL

http://www.instructables.com/id/Animate-a-Billy-Bass-Mouth-With-Any-Audio-Source/

"ALEXA,
ASK FISH JOKES
FOR A SILLY JOKE"

ALEXA, GIVE ME MY FLASH BRIEFING

WIN AN ECHO DOT!

- GO TO TWITTER.COM/DRUPALIZEME
- RT OUR TWEET ABOUT THE DRUPALIZE.ME FLASH BRIEFING SKILL
- WE'LL PICK A RANDOM WINNER
- CLOSES AT 1:00PM
- MUST BE PRESENT AT DRUPALCON TO WIN

SPRINTS!

- WHO? DEVELOPERS, DOC WRITERS, PROJECT MANAGERS, BUG REPORTERS, QA TESTERS, AND YOU!
- MENTORS AVAILABLE!
- HTTPS://EVENTS.DRUPAL.ORG/BALTIMORE2017/SPRINTS

RECAP

- OVERVIEW OF ALEXA SKILL CREATION PROCESS
- INTEGRATE DRUPAL WITH ALEXA!
- DEMO: STARRING BIG MOUTH BILLY BASS AS "ALEXA"

EVALUATIONS

Find our session page on the DrupalCon Baltimore website to find and complete an evaluation:

https://events.drupal.org/baltimore2017/sessions/drupal-alexa-and-big-mouth-billy-bass-walk-bar

Thank you!

Q&A?