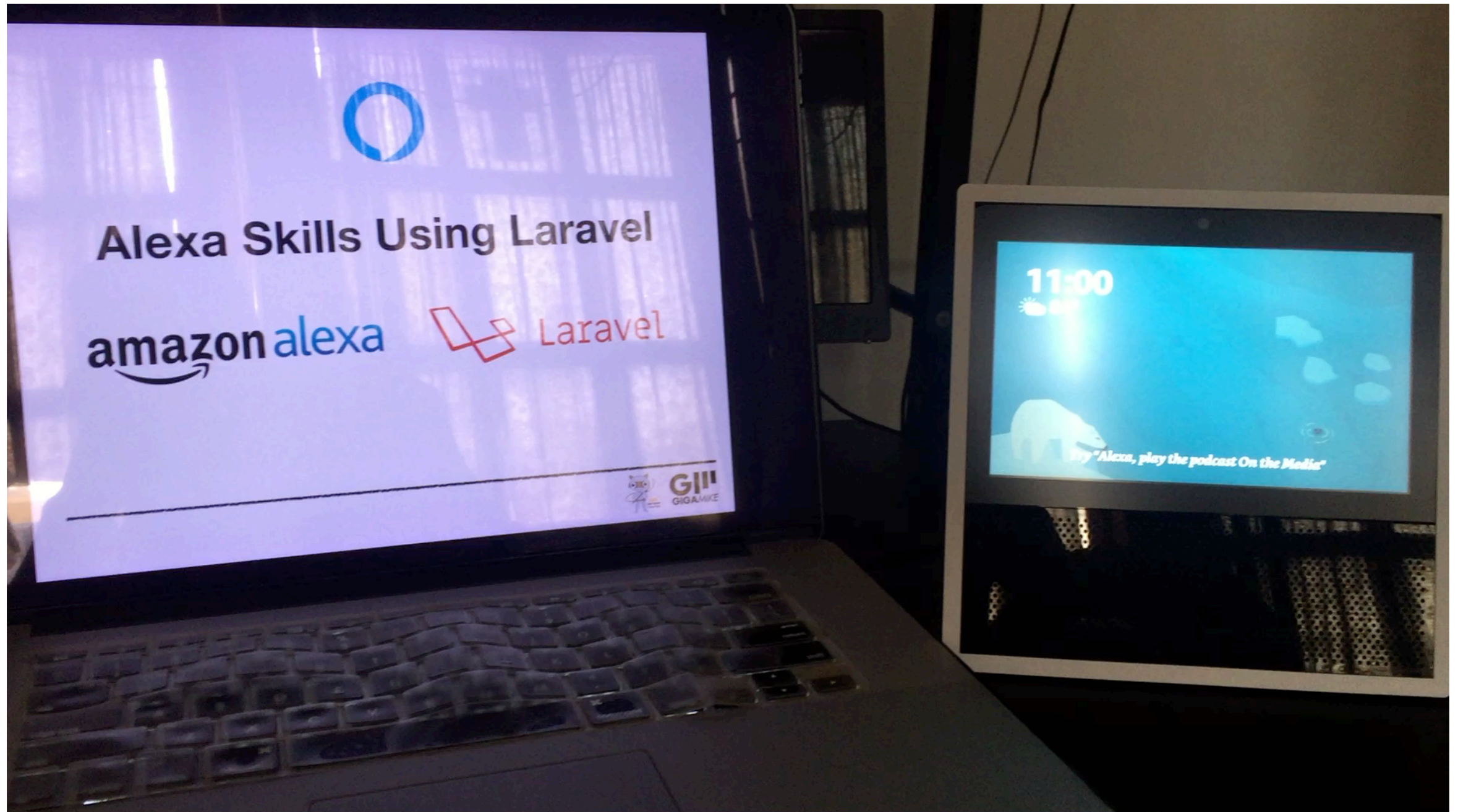


Sleepy?



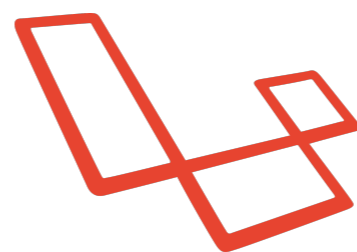
Wake up song!





Alexa Skills Using Laravel

amazon alexa



Laravel

By Mik Galon



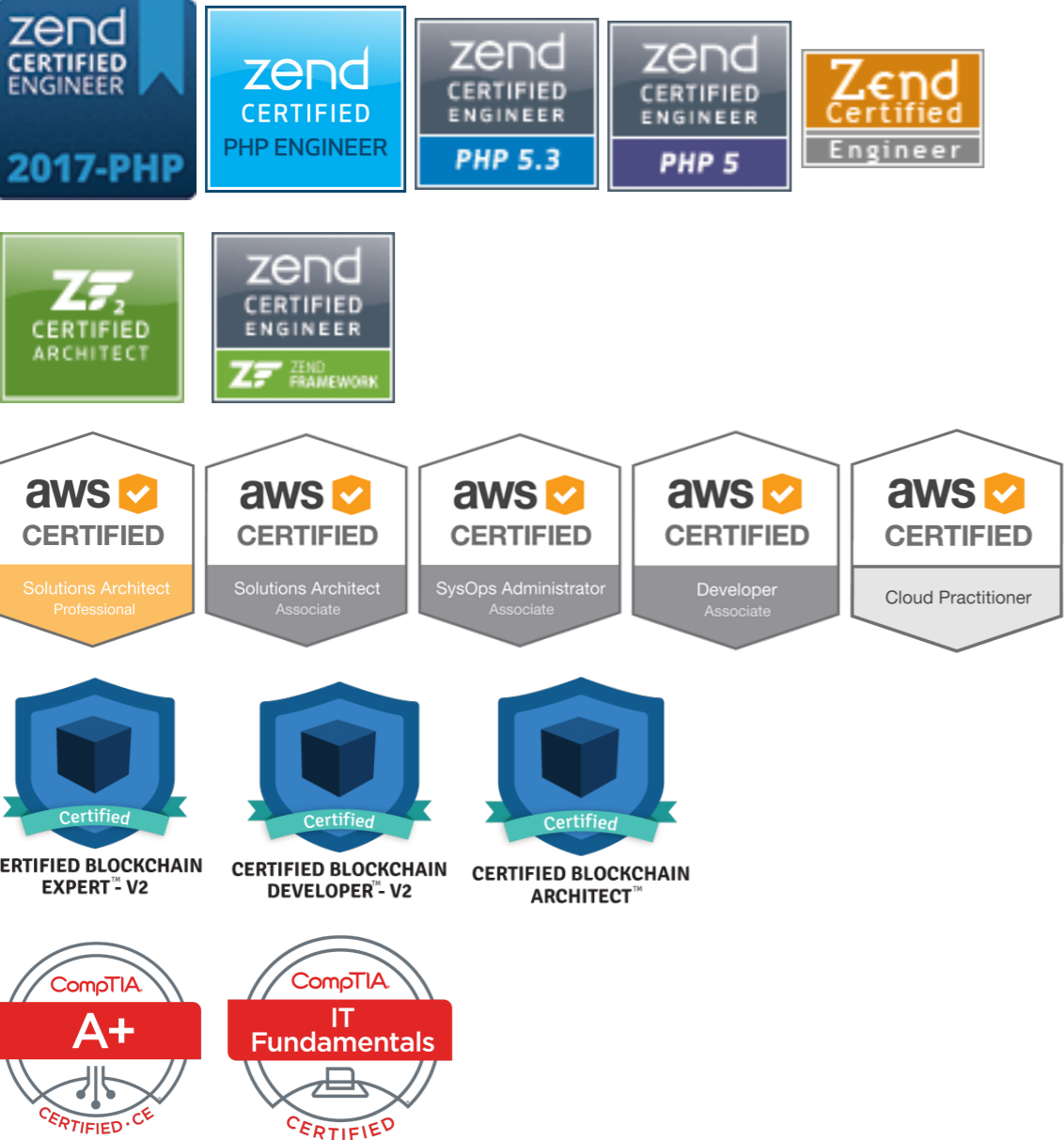
Introduce Speaker



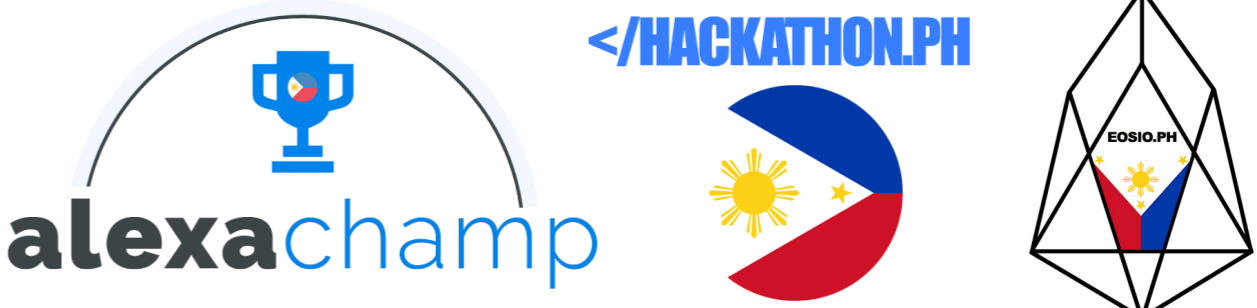
Who is speaking?

Mik Galon, BSCS, MIM a.k.a GigaMike

Freelance Full Stack Web Developer / AWS Solutions Architect / Alexa Skills Developer / DApp Developer



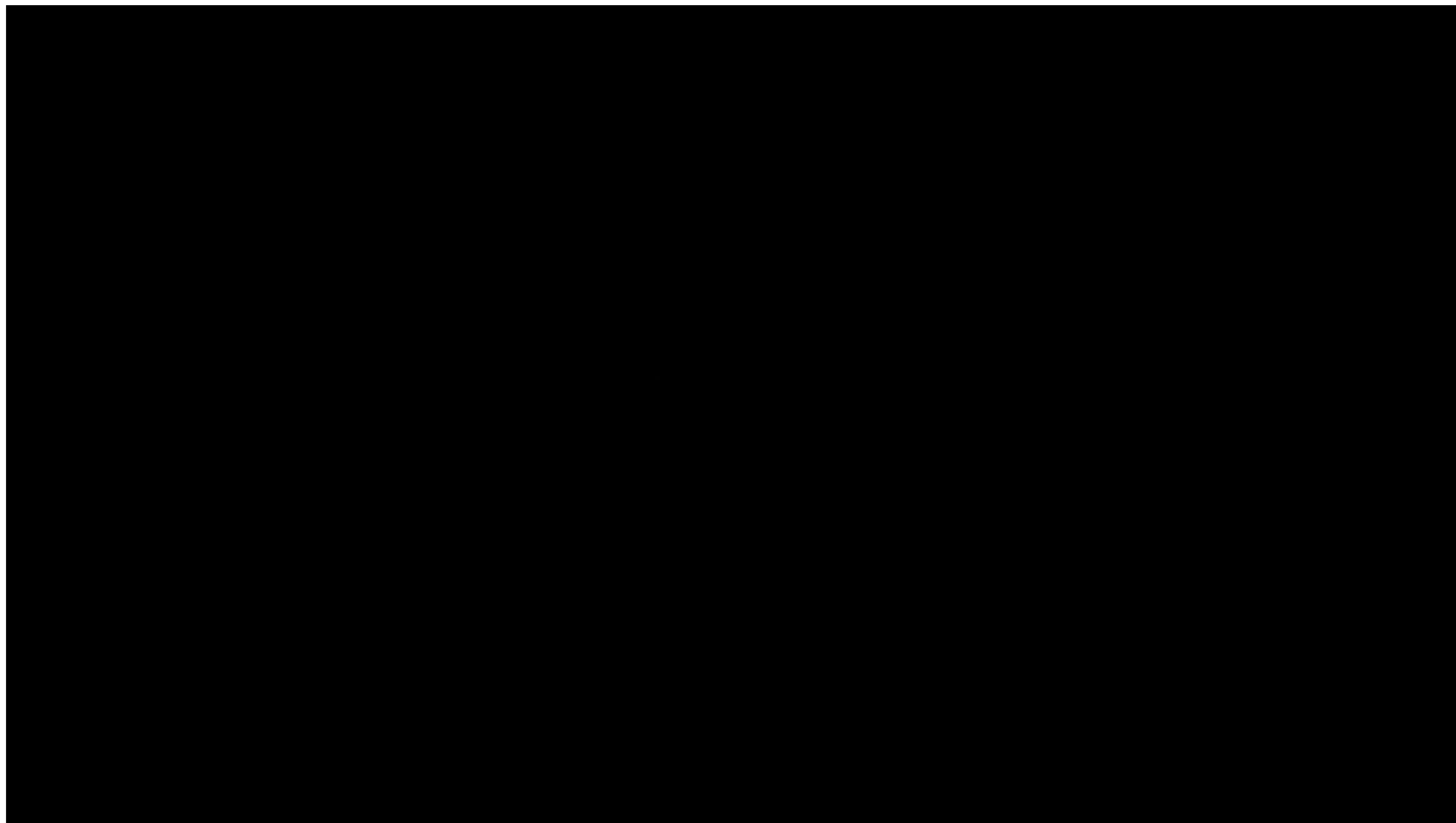
-  www.gigamike.net
-  @gigamikenet
-  @gigamike
-  @gigamike
-  gigamike@gigamike.net



What is Alexa



- Alexa is an Amazon cloud based voice service.
- Using Alexa you can get information, play music, order a pizza, control your things, check weather, check traffic and you can even custom it by creating an Alexa skills.



Voice is the future

- Voice is the new search.

- Current Usage

- “Google voice search queries in 2016 are up 35x over 2008” according to Google trends via Search Engine Watch
 - “40% of adults now use voice search once per day” according to Location World
 - “Cortana now has 133 million monthly users” according to Microsoft/Tech Radar

- Predictions

- “About 30% of searches will be done without a screen by 2020.” via Mediapos
 - “We estimate there will be 21.4 million smart speakers in the US by 2020” according to Activate
 - “By 2019, the voice recognition market will be a \$601 million industry”, according to a report from Technavio via Skyword.
 - “Year 2017, 25 million devices will be shipped, bringing the total number of voice-first devices to 33 million in circulation.” based on a new study by VoiceLabs via Mediapost

amazon alexa IS THE NEXT SEARCH ENGINE



Alexa has the potential to kill Google.

Gary Vaynerchuk

* <https://edit.co.uk/blog/google-voice-search-stats-growth-trends/>



Amazon Alexa Devices



Echo



Echo Spot



Echo Show



Echo Dot



Portal Plus (Facebook)



Echo Look



Echo Connect



Echo Voice Remote

Devices with Alexa

Home Audio



Automobiles



Home Security



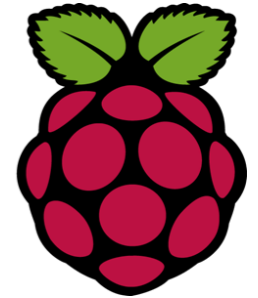
TV / Video



Thermostats



Maker Boards



Smartphones



Wearables



Appliances



<https://github.com/alexa/avs-device-sdk/wiki/Build-Options>





Alexa everywhere!



Alexa Skills App

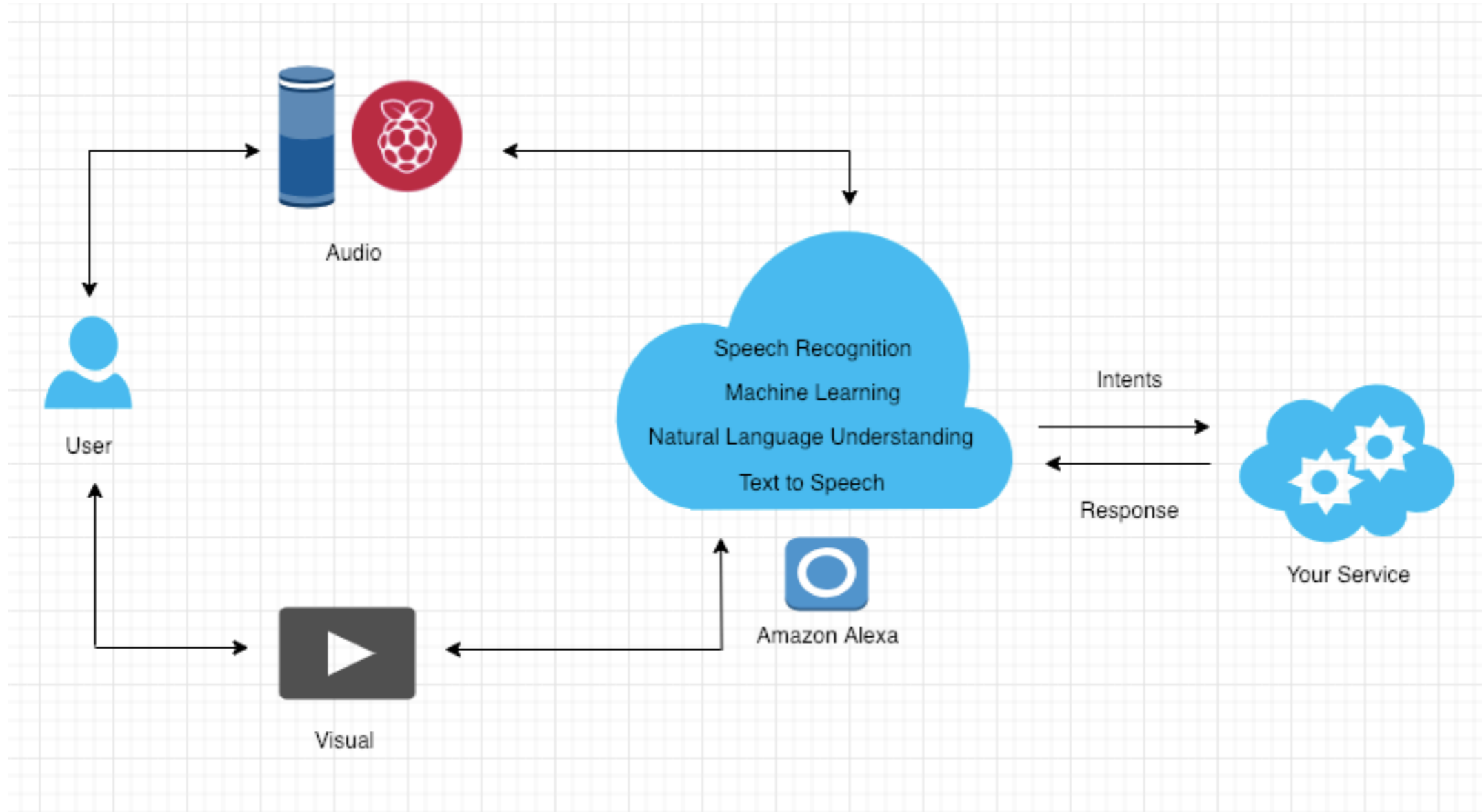
The screenshot displays the Alexa Skills App interface. On the left is a dark sidebar with navigation options: Home, Now Playing, Music & Books, Lists, Reminders & Alarms, Contacts, Skills, Smart Home, Things to Try, Settings, Help & Feedback, and Not Michael? Sign out. The main content area is titled 'All Skills' and includes a search bar for 'Search all skills' and a 'Your Skills' button. Below the search bar are three sections of skill recommendations:

- STAFF PICKS:** Four skills are featured: 'Watch Your Words' (5 stars, 2 reviews), 'Mindfulness : One minute meditation' (5 stars, 14 reviews), 'Clorox Clean' (4.5 stars, 11 reviews), and 'Guess My Name' (5 stars, 1 review). Each skill includes an icon, a sample voice command, and a star rating.
- "ALEXA, WHAT ARE YOUR TOP SKILLS?":** Four skills are featured: 'Reuters TV (U.S.)' (4.5 stars, 250 reviews), 'Jeopardy!' (5 stars, 2489 reviews), 'Fox News' (4.5 stars, 1294 reviews), and 'Question of' (5 stars, 1 review).
- PREMIUM SKILLS:** Four skills are featured: 'Who Wants to Be a Millionaire' (4.5 stars, 379 reviews), 'Trivial Pursuit Tap' (4.5 stars, 192 reviews), 'hypno therapist' (4.5 stars, 83 reviews), and 'End Zone F' (5 stars, 1 review).

https://alexa.amazon.com/spa/index.html#skills/?ref-suffix=nav_na



How Alexa Skills Works



Basic Alexa Skills

Alexa, use big mike say hello world

wake word launch Invocation Name utterance

what is the horoscope for **{ZodiacSign}**

utterance slot value

HelloWorldIntent

GetHoroscopeIntent

Intent

{value: "LEO"}

slot value



What Kind of Skill Do You Want to Create?

- **Custom Skill**
- **Smart Home Skill API** - “Alexa, turn on the...”
- **Video Skill API** - “Alexa, play...”
- **Flash Briefing Skill API** - “Alexa, what's my flash briefing”
- **Music Skill API** - “Alexa, play..”
- **Gadget Skill** - echo buttons



Alexa: Hello World

- **Accounts**

- **Amazon Developer Account**



- <https://developer.amazon.com/>

- **Amazon Web Services Account**



- <https://aws.amazon.com/>

- **Amazon Alexa Account**



- <https://alexa.amazon.com/spa/index.html>



Endpoint

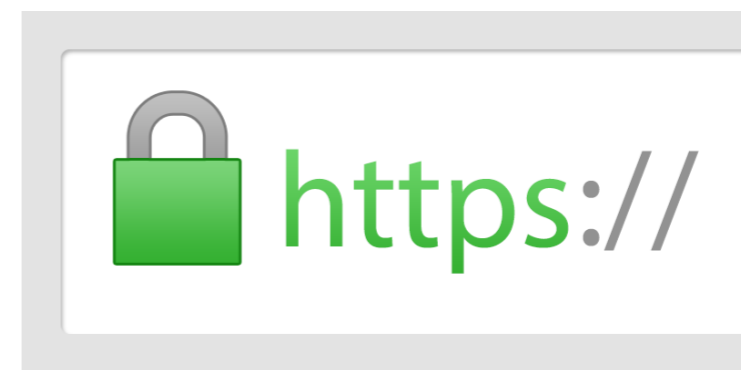
- **Lambda**

- Compute service that lets you run code without provisioning or managing server.
- 1M Request/Month Free. \$0.20 Per 1M Request/Month Thereafter.
- Java, Python, C#, Powershell, Go, Ruby.



- **HTTPS End Point**

- Web Server with SSL/HTTPS
- LAMP, MEAN, IIS/ASP, Python.



Alexa: “Hello World” using HTTPS endpoint

1. Web Server

<https://console.aws.amazon.com/>



AWS EC2

- Ubuntu
- t2.small
- 8GB Diskspace
- Security groups
 - 80, 443
- Elastic IP



2. Domain

<https://console.aws.amazon.com/>



AWS Route53

- A Record

Domain

<https://www.dot.ph/>

- NS Record



3. LAMP



- Ubuntu
- Apache
- MySQL
- PHP



<https://botman.io/>



<https://certbot.eff.org/>

SSL/Https



4. Alexa Skills



- Create Skills
- Invocation Name
- Intent and utterance
- Endpoint



Laravel/Botman Marcel Pociot

user@ubuntu: composer create-project --prefer-dist botman/studio tron.ph

OR

user@ubuntu: composer require botman/botman

user@ubuntu: composer require botman/driver-amazon-alexa

OR

user@ubuntu: php artisan botman:install-driver amazon-alexa

```
ubuntu@ip-172-31-58-20: /var/www/tron.ph$ pwd
/var/www/tron.ph/config/botman
ubuntu@ip-172-31-58-20: /var/www/tron.ph/config/botman$ ls
amazon-alexa.php  config.php  web.php
ubuntu@ip-172-31-58-20: /var/www/tron.ph/config/botman$ cd ../
ubuntu@ip-172-31-58-20: /var/www/tron.ph/config$ cd ../
ubuntu@ip-172-31-58-20: /var/www/tron.ph$ php artisan botman:list
```

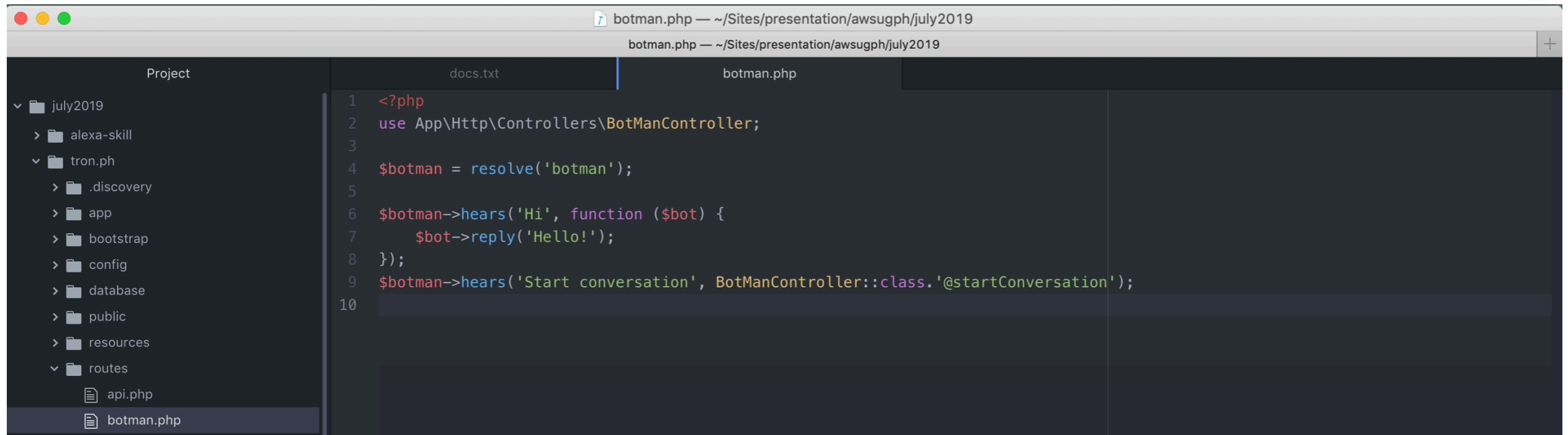
Name	Service	Description	Installed?
amazon-alexa	Amazon Alexa	Use BotMan with Amazon Alexa.	✓
cisco-spark	Cisco Spark	Use BotMan with Cisco Spark.	✗
facebook	Facebook	Use BotMan with the Facebook messenger platform.	✗
hipchat	HipChat	Use BotMan with Atlassian HipChat.	✗
kik	Kik	Use BotMan with the Kik messenger.	✗
botframework	Microsoft Bot Framework	Use BotMan with the Microsoft Bot Framework.	✗
nexmo	Nexmo	Use BotMan with Nexmo to send and listen to SMS.	✗
slack	Slack	Use BotMan with Slack.	✗
telegram	Telegram	Use BotMan with the Telegram messenger.	✗
twilio	Twilio	Use BotMan with Nexmo to send and listen to SMS.	✗
web	Web	Use BotMan with your API/Website.	✓
wechat	WeChat	Use BotMan with the WeChat messenger.	✗

```
ubuntu@ip-172-31-58-20: /var/www/tron.ph$
```

<https://botman.io/2.0/installation>



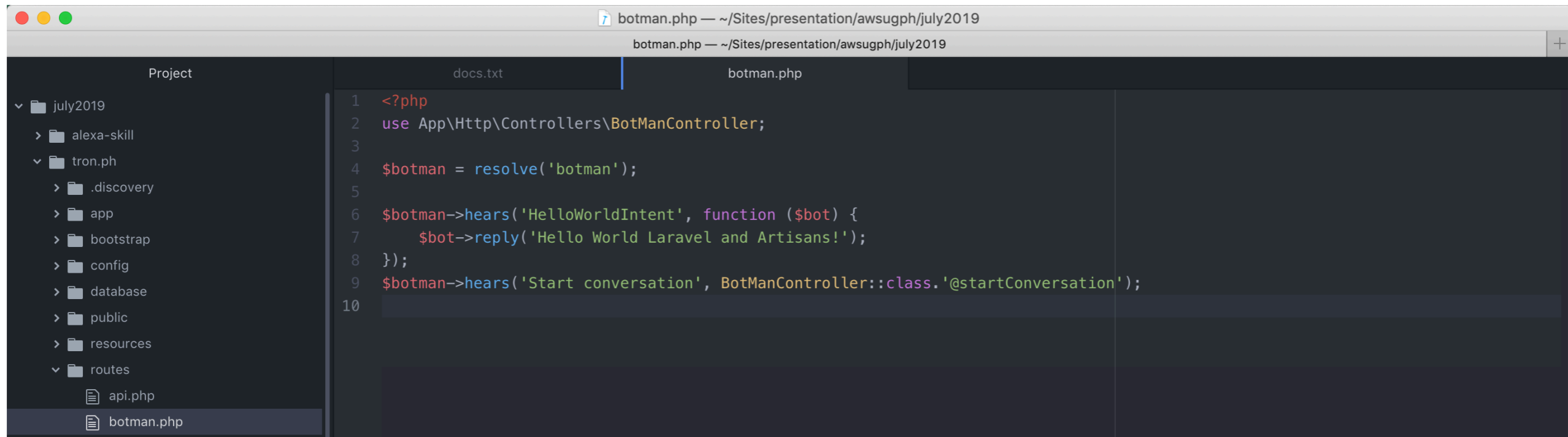
Laravel/Botman



```
botman.php — ~/Sites/presentation/awsugph/july2019
botman.php — ~/Sites/presentation/awsugph/july2019

Project
  july2019
    alexa-skill
    tron.ph
      .discovery
      app
      bootstrap
      config
      database
      public
      resources
      routes
        api.php
        botman.php

1 <?php
2 use App\Http\Controllers\BotManController;
3
4 $botman = resolve('botman');
5
6 $botman->hears('Hi', function ($bot) {
7     $bot->reply('Hello!');
8 });
9 $botman->hears('Start conversation', BotManController::class.'@startConversation');
10
```



```
botman.php — ~/Sites/presentation/awsugph/july2019
botman.php — ~/Sites/presentation/awsugph/july2019

Project
  july2019
    alexa-skill
    tron.ph
      .discovery
      app
      bootstrap
      config
      database
      public
      resources
      routes
        api.php
        botman.php

1 <?php
2 use App\Http\Controllers\BotManController;
3
4 $botman = resolve('botman');
5
6 $botman->hears('HelloWorldIntent', function ($bot) {
7     $bot->reply('Hello World Laravel and Artisans!');
8 });
9 $botman->hears('Start conversation', BotManController::class.'@startConversation');
10
```



developer.amazon.com

The screenshot shows the Amazon Developer website interface. At the top, the 'amazondeveloper' logo is on the left, and user profile 'MG', a help icon, and a search icon are on the right. The navigation bar includes: Dashboard, Apps & Services, Alexa, Software & Games, Login with Amazon, Dash Services, Reporting, and Settings. A dropdown menu under 'Alexa' lists 'Alexa Skills Kit' and 'Alexa Voice Service'. A yellow banner below the navigation bar contains the text: 'Security Profile which is now moved under "Settings"'. Below this are two main sections: 'Notifications' and 'Announcements'. The 'Notifications' section has tabs for 'All' and 'Critical', with 'All' selected and displaying 'No Notifications.'. The 'Announcements' section contains a table of updates.

Announcement Title	Date	Announcement Title	Date
Alexa Gadgets Toolkit: How it Makes the Echo Wall Clock Tick	Dec 19, 2018	ProactiveEvents API	Dec 12, 2018
Alexa Multimodal Skills Challenge	Nov 30, 2018	Alexa Hosted Skills (Preview)	Nov 15, 2018
Test Multi-Turn Conversations using the CLI and SMAPI	Nov 15, 2018	Alexa and Echo Devices Now Available for Pre-order by Customers in Mexico	Nov 7, 2018

At the bottom of the page, there are logos for 'amazon alexa', 'amazon appstore', and 'amazon dash services'.

Alexa Development Types



Create Skill

alex developer console MG Feedback forum

Create a new skill

Cancel Create skill

Skill name
laravel 7/50 characters

Default language
English (US) More languages can be added to your skill after creation

Choose a model to add to your skill

There are many ways to start building a skill. You can design your own custom model or start with a pre-built model. Pre-built models are interaction models that contain a package of intents and utterances that you can add to your skill.

Custom SELECTED
Design a unique experience for your users. A custom model enables you to create all of your skill's interactions.

Flash Briefing
Give users control of their news feed. This pre-built model lets users control what updates they listen to.
"Alexa, what's in the news?"

Smart Home
Give users control of their smart home devices. This pre-built model lets users turn off the lights and other devices without getting up.
"Alexa, turn on the kitchen lights"

Music
Give users complete control of their music. This pre-built model lets users search, pause, skip, or shuffle in your skill.
"Alexa, play music by Lady Gaga"

Video
Let users find and consume video content. This pre-built model supports content searches and content suggestions.
"Alexa, play Interstellar"

Baby Activity
Let users log and retrieve events for their infants. This pre-built model supports diaper changes, feedings, sleep, and weight.
"Alexa, record a dirty diaper"

Meetings
This pre-built model leverages Alexa for Business APIs to allow users to search for and book available meeting rooms in their office.
"Alexa, book a room"

Choose a method to host your skill's backend resources

You can provision your own backend resources or you can have Alexa host them for you. If you decide to have Alexa host your skill, you'll get access to our code editor, which will allow you to deploy code directly to AWS Lambda from the developer console.

Provision your own SELECTED
Provision your own endpoint and backend resources for a skill. With this option, you will not gain access to the console's code editor.

Alexa-Hosted
Alexa will host skills in your account up to the AWS Free Tier limits. You will gain access to an AWS Lambda endpoint, 5 GB of media storage with 15 GB of monthly data transfer, and a table for session persistence. [Learn more](#)

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Choose a template

Choose a template

Choose

Select a quick start template to get started with a predefined skill or simply "Start from scratch"

Start from scratch

Design a unique experience for your users and define your custom model from scratch.

SELECTED

Fact Skill

Provided a list of interesting facts about a topic, Alexa will select a fact at random and tell it to the user when the skill is invoked. Includes 1 custom intent, and 4 built-in intents.

Quiz Game Skill

Provided a list of interesting facts about a topic, Alexa will quiz a user with facts from the list. Includes 1 custom intent with 1 slot, and 6 built-in intents.

High-Low Game Skill

Try to guess the target number. Alexa tells the player if the target number is higher or lower than their current guess. Includes 2 custom intents with 5 slots, and 5 built-in intents.



Dashboard

The screenshot shows the Alexa Developer Console dashboard. At the top, there's a navigation bar with tabs for 'Your Skills', 'laravel', 'Build', 'Code', 'Test', 'Distribution', 'Certification', and 'Analytics'. The 'Build' tab is active. On the right of the navigation bar, there are search, user profile (MG), and a menu icon, along with a 'Feedback forum' link.

The main content area is divided into three sections:

- Left Sidebar:** A navigation menu with sections: 'CUSTOM' (Interaction Model, Invocation, Intents (5) with an 'Add' button, Built-In Intents (5) including AMAZON.FallbackIntent, AMAZON.CancelIntent, AMAZON.HelpIntent, AMAZON.StopIntent, and AMAZON.NavigateHomeIntent, Slot Types (0) with an 'Add' button, JSON Editor), 'INTERFACES', 'Endpoint', 'Intent History', 'Display' (with a 'BETA' badge), 'IN-SKILL PRODUCTS', 'ACCOUNT LINKING', and 'PERMISSIONS'.
- Center Content:**
 - How to get started:** A video player for 'Alexa Skills Kit Developer Tutorial f...' with 'Watch later' and 'Share' buttons. The video thumbnail shows the 'amazon alexa Developer Console: Build' logo.
 - Resources:** A list of links: 'Make Money' (Create an In-Skill Product...), 'Documentation' (Refer to our technical documents...), 'Sample Alexa Projects' (Whatever your experience...), 'Alexa Presentation Language (APL) Documentation' (BETA) (Use our APL technical documentation...), 'Alexa Design Guide' (BETA) (Learn how to design engaging and creative visual responses...), 'Weekly Office Hours' (Drop in with your questions...), 'Alexa Developer Forums' (Visit our forums...), and 'Alexa Skills Policy' (Ready to submit your skill? Make sure it complies with skills guidelines).
- Right Panel:** A 'Skill builder checklist' section. It includes a note: 'Complete these steps to be able to test your skill using the simulator in the test tab, or with your echo device.' The checklist items are:
 - 1. Invocation Name** (REQUIRED): Enter an invocation name for your skill. Status:
 - 2. Intents, Samples, and Slots** (REQUIRED): Add at least one intent and one sample utterance. Status:
 - 3. Build Model** (REQUIRED): Successfully build your interaction model. Status:
 - 4. Endpoint** (REQUIRED): Set a web service endpoint to handle skill requests. Status:
 - In-Skill Products** (OPTIONAL): Create an in-skill product and add it to your skill. Status:

At the bottom of the dashboard, there's a footer with 'English', copyright information '© 2010 - 2019, Amazon.com, Inc. or its affiliates. All Rights Reserved.', and links for 'Terms', 'Docs', 'Forums', 'Blog', and 'Alexa Developer Home'.



Invocation Name

alex developer console

English (US)

Save Model View Model Versions Build Model Utterance Profiler

Invocation

Users say a skill's invocation name to begin an interaction with a particular custom skill. For example, if the invocation name is "daily horoscopes", users can say:

User: Alexa, ask daily horoscopes for the horoscope for Gemini

Skill Invocation Name [?]

small mike

Invocation name requirements

Your invocation name should be two or more words, and can contain only lower-case alphabetic characters, spaces between words, possessive apostrophes (for example, "sam's science trivia"), or periods used in abbreviations (for example, "a. b. c."). Other characters like numbers must be spelled out. For example, "twenty one".

Invocation names cannot contain any of the Alexa skill launch phrases such as "launch", "ask", "tell", "open", "load", "begin", and "enable". Wake words including "Alexa", "Amazon", "Echo", "Computer", or the words "skill" or "app" are not allowed. [Learn more](#) about invocation names for custom skills.

Skills that include brand names must be submitted by genuine vendors.

Changes to your skill's invocation name will not take effect until you have built your skill's interaction model. In order to successfully build, your skill's interaction model must contain an intent with at least one sample utterance. [Learn more](#) about creating interaction models for custom skills.

English

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Intent

alex developer console

English (US) Save Model View Model Versions Build Model Utterance Profiler

CUSTOM

- Interaction Model
- Invocation
 - Intents (5) [+ Add](#)
 - Built-In Intents (5)
 - AMAZON.FallbackIntent
 - AMAZON.CancelIntent
 - AMAZON.HelpIntent
 - AMAZON.StopIntent
 - AMAZON.NavigateHomeIntent
 - Slot Types (0) [+ Add](#)
 - JSON Editor
- Interfaces
- Endpoint
- Intent History
- Display [BETA](#)

IN-SKILL PRODUCTS

ACCOUNT LINKING

PERMISSIONS

Add Intent

An intent represents an action that fulfills a user's spoken request. [Learn more](#) about intents.

Create custom intent [ⓘ]

HelloWorldIntent [Create custom intent](#)

Use an existing intent from Alexa's built-in library [ⓘ]

[Learn more](#) about using built-in intents.

Search built-ins 🔍

146/146 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.
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.
Cinema Showtimes 4 built-ins	Intents for asking about show times and events at movie theaters.
Local Search 4 built-ins	Intents for asking about local businesses and locations, such as operating hours, phone numbers, and travel times to locations and businesses. For example, users can ask when a particular business is open, or ask for the phone number of a business.
Music 29 built-ins	Intents for asking about music, such as asking about songs, playlists, and music libraries.
Video 23 built-ins	Intents for asking about television and other types of video media. For example, users can ask for information about episodes of a TV show.
Weather 3 built-ins	Intents for requesting weather reports and forecasts.
General 39 built-ins	Intents for other requests that don't fall into any of the more specific categories.
Standard 26 built-ins	Intents for common actions such as stopping, canceling, and asking for help.

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Utterance

alex developer console

English (US)

Save Model View Model Versions Build Model Utterance Profiler

Intents / HelloWorldIntent

Sample Utterances (5) [Bulk Edit](#) [Export](#)

What might a user say to invoke this intent? +

- test
- hello
- this is a test
- world hello
- hello world

< 1 - 5 of 5 > [Show All](#)

Dialog Delegation Strategy

Dialog management is not enabled f... > Why is this disabled?

Intent Slots (0)

ORDER	NAME	SLOT TYPE	ACTIONS
1	Create a new slot	+ Select a slot type	Edit Dialog Delete

Intent Confirmation

Does this intent require confirmation?

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Endpoint

The screenshot displays the Alexa Developer Console interface for configuring an endpoint. The top navigation bar includes 'Your Skills', 'laravel', 'Build', 'Code', 'Test', 'Distribution', 'Certification', and 'Analytics'. The left sidebar shows a navigation menu with categories like 'CUSTOM', 'Interaction Model', 'Invocation', 'Intents (6)', 'Slot Types (0)', 'JSON Editor', 'Interfaces', 'Endpoint', 'Intent History', 'Display', 'IN-SKILL PRODUCTS', 'ACCOUNT LINKING', and 'PERMISSIONS'. The main content area is titled 'Endpoint' and contains a light blue informational box explaining that the endpoint receives POST requests and generates JSON responses. Below this, the 'Service Endpoint Type' section allows users to choose between 'AWS Lambda ARN (Recommended)' and 'HTTPS'. The 'HTTPS' option is selected, and the configuration includes a 'Default Region (Required)' dropdown set to 'https://tron.ph/botman', a text input for the URL, and a dropdown for 'Select SSL certificate type'. Additionally, there are optional configuration sections for 'North America', 'Europe and India', and 'Far East', each with a URL input and an SSL certificate type dropdown. The footer of the console shows the language set to 'English' and copyright information for Amazon.com, Inc. or its affiliates.



developer.amazon.com

- **Build**
 - **Interaction Model**
 - **Invocation Name** = App Name
 - **Intents and utterance** = Events and Functions
 - **Endpoint** = HTTPS



Test

The screenshot displays the Alexa Developer Console's 'Test' interface. At the top, the navigation bar includes 'Your Skills', 'laravel', 'Build', 'Code', 'Test', 'Distribution', 'Certification', and 'Analytics'. The 'Test' tab is active, showing 'Skill testing is enabled in: Development'. Below this, there are checkboxes for 'Skill I/O', 'Device Display', and 'Device Log'. The interface is divided into three main sections: 'Alexa Simulator', 'Manual JSON', and 'Voice & Tone'. The 'Alexa Simulator' section on the left shows a simulated user interaction with the text 'ask small mike say hello world' and a response bubble that says 'Hello World Laravel and Artisans!'. The 'Manual JSON' section in the center displays the 'Skill I/O' data, split into 'JSON Input' and 'JSON Output'. The 'JSON Input' shows a request object with session, application, user, and context information. The 'JSON Output' shows a response object with an output speech of 'Hello World Laravel and Artisan'. At the bottom, the 'Medium Hub' section shows a dark screen with the text 'laravel' and 'To quit, try "Alexa, exit."'.

alex developer console

< Your Skills laravel Build Code Test Distribution Certification Analytics

Feedback forum

Skill testing is enabled in: Development

Skill I/O Device Display Device Log

Alexa Simulator Manual JSON Voice & Tone

English (US) Type or click and hold the mic

ask small mike say hello world

Hello World Laravel and Artisans!

Skill I/O

JSON Input

```
1- {
2-   "version": "1.0",
3-   "session": {
4-     "new": true,
5-     "sessionId": "amzn1.echo-api.session.5606dbc7-
6-     "application": {
7-       "applicationId": "amzn1.ask.skill.bb4901c6
8-     },
9-     "user": {
10-      "userId": "amzn1.ask.account.AG2MPU3ASY5IC
11-    }
12-  },
13-  "context": {
14-    "System": {
15-      "application": {
16-        "applicationId": "amzn1.ask.skill.bb49
17-      },
18-      "user": {
19-        "userId": "amzn1.ask.account.AG2MPU3AS
20-      },
21-      "device": {
22-        "deviceId": "amzn1.ask.device.AHKGHQJ
23-        "supportedInterfaces": {}
24-      },
25-      "apiEndpoint": "https://api.amazonalexa.co
26-      "apiAccessToken": "eyJ0eXA101JV1iLCJhbGc
27-    },
28-    "Viewport": {
29-      "experiences": [
30-        {
31-          ...

```

JSON Output

```
1- {
2-   "body": {
3-     "version": "1.0",
4-     "response": {
5-       "outputSpeech": {
6-         "type": "PlainText",
7-         "text": "Hello World Laravel and Artisan
8-       },
9-       "shouldEndSession": false,
10-      "type": "_DEFAULT_RESPONSE"
11-    },
12-    "sessionAttributes": {}
13-  },
14- }

```

Medium Hub

laravel
To quit, try "Alexa, exit."

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Test

- **Device**
 - **Amazon Echo**
 - **Raspberry PI**
 - <https://github.com/alexa/avs-device-sdk>
 - **Echosim.io: Alexa Skill Testing Tool**
 - <https://echosim.io/welcome>
 - **Amazon Developer Account**
 - <https://developer.amazon.com/>



Others/Tools

- **AWS CLI**

- <https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-welcome.html>

- **Debugging**

- Cloudwatch

- **Hosting**

- Heroku, EC2 free instance (under free tier account)

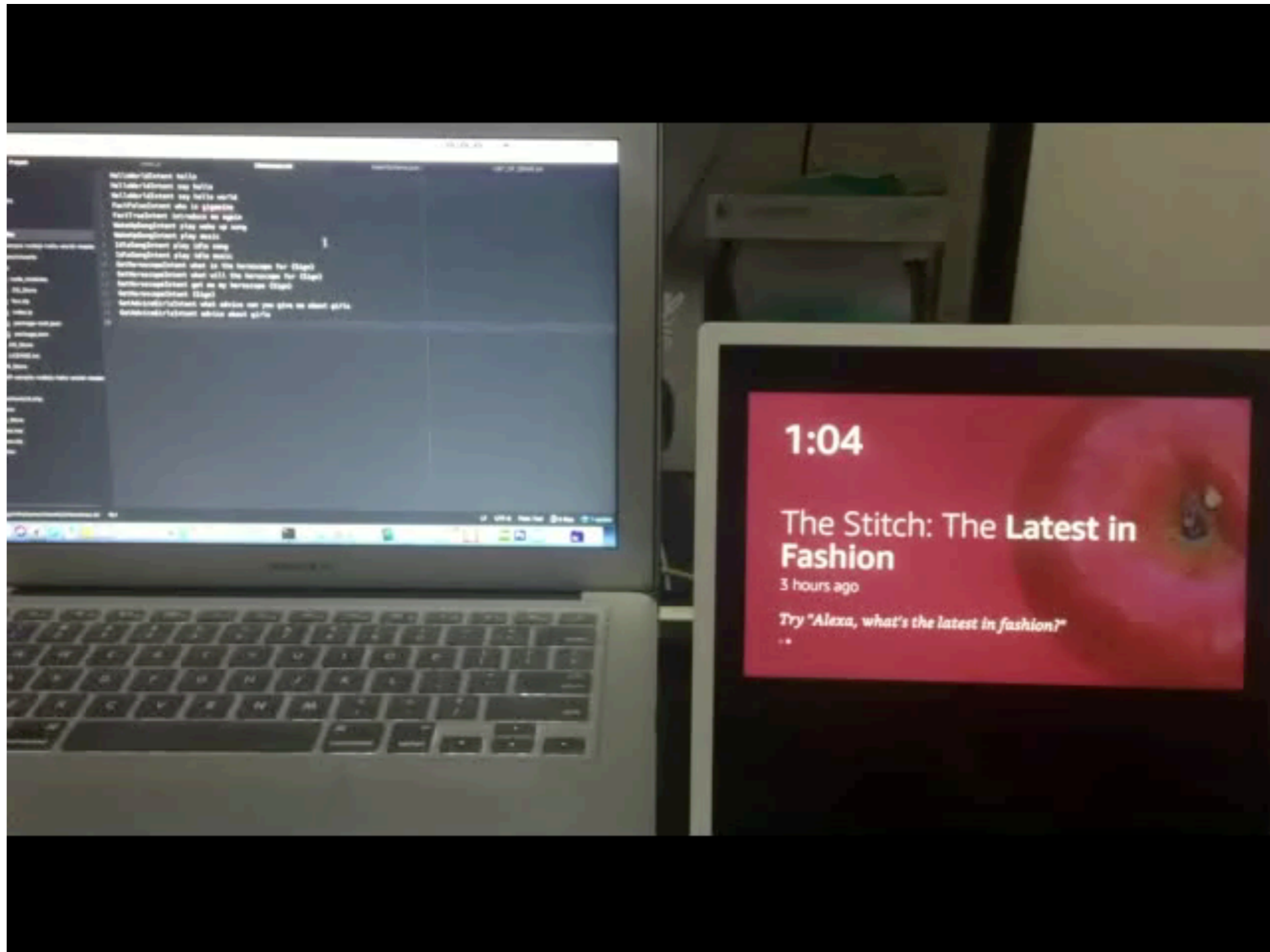


Others/Advance

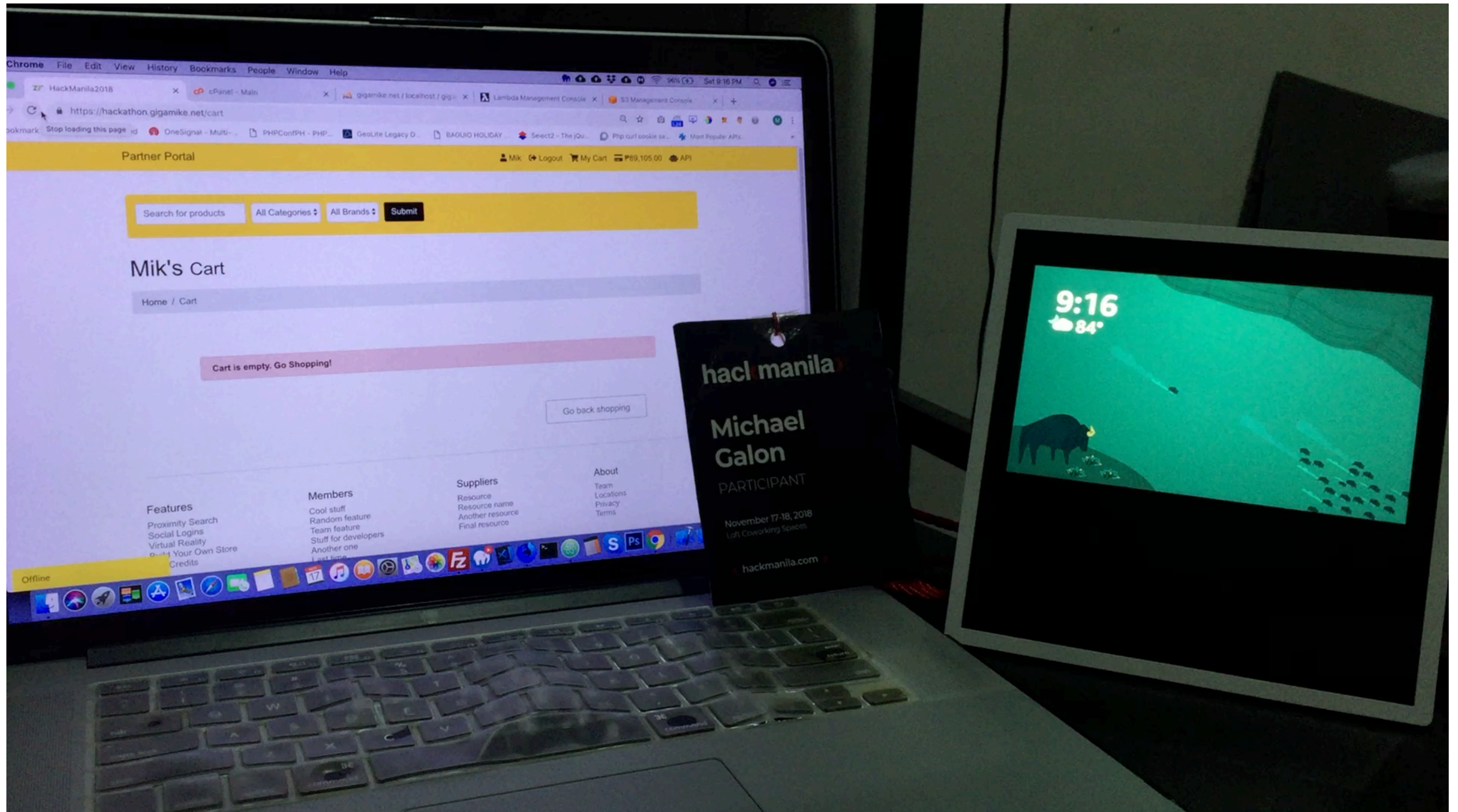
- **Speech Synthesis Markup Language (SSML)**
 - **Link Account = oAuth 2.0**
 - **Video/Audio**
 - **Web Services/Rest API**
 - **Make Money with Your Alexa Skill**
 - In-Skill Purchasing
 - Amazon Pay for Alexa Skills
 - Alexa Developer Rewards
 - **Bluetooth application**
 - **Distribution and Certification**
 - **AWS Certified Alexa Skill Builder – Specialty Exam**
-



Speech Synthesis Markup Language (SSML)



Web Services/API



Questions?

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Please Support



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