“Hello World”

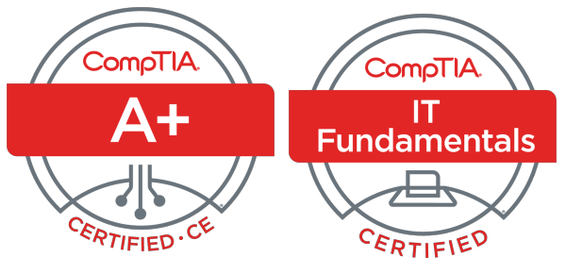
GIGAMIKE

Sleepy?

Introduce Speaker

Who is speaking?

Mik Galon, BSCS, MIM a.k.a GigaMike
Freelance Full Stack Web Developer / AWS Solutions Architect / Alexa Skills Developer



www.gigamike.net

@gigamikenet

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gigamike@gigamike.net

alexachamp

</HACKATHON.PH>

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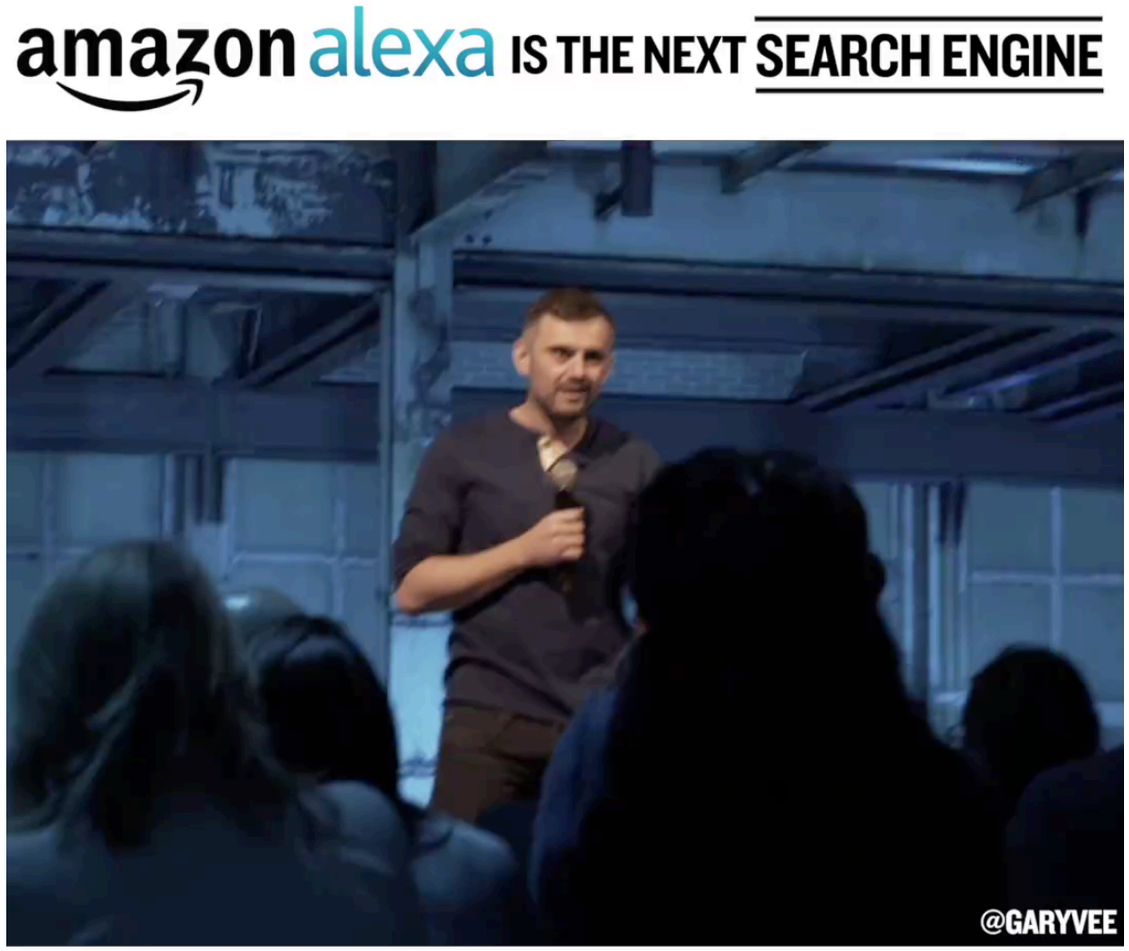
What is Alexa

- 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
        - “In May 2016, 1 in 5 searches on an Android app in the USA were through speech” according to KPCB
    - 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



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

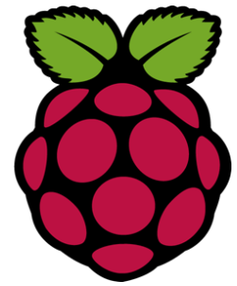
Automobiles

Home Security

TV / Video

Thermostats

Maker Boards



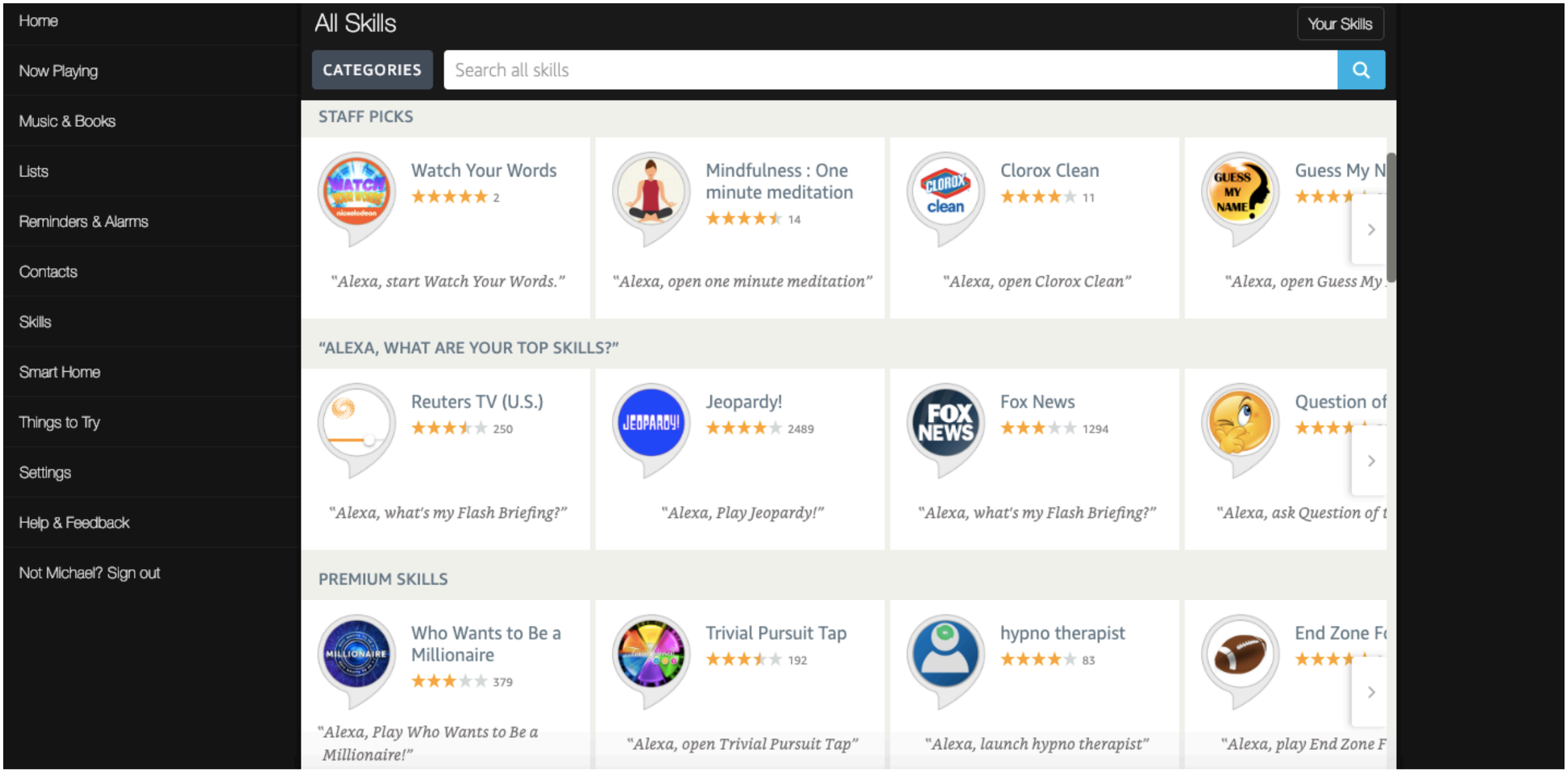
Smartphones

Wearables

Appliances

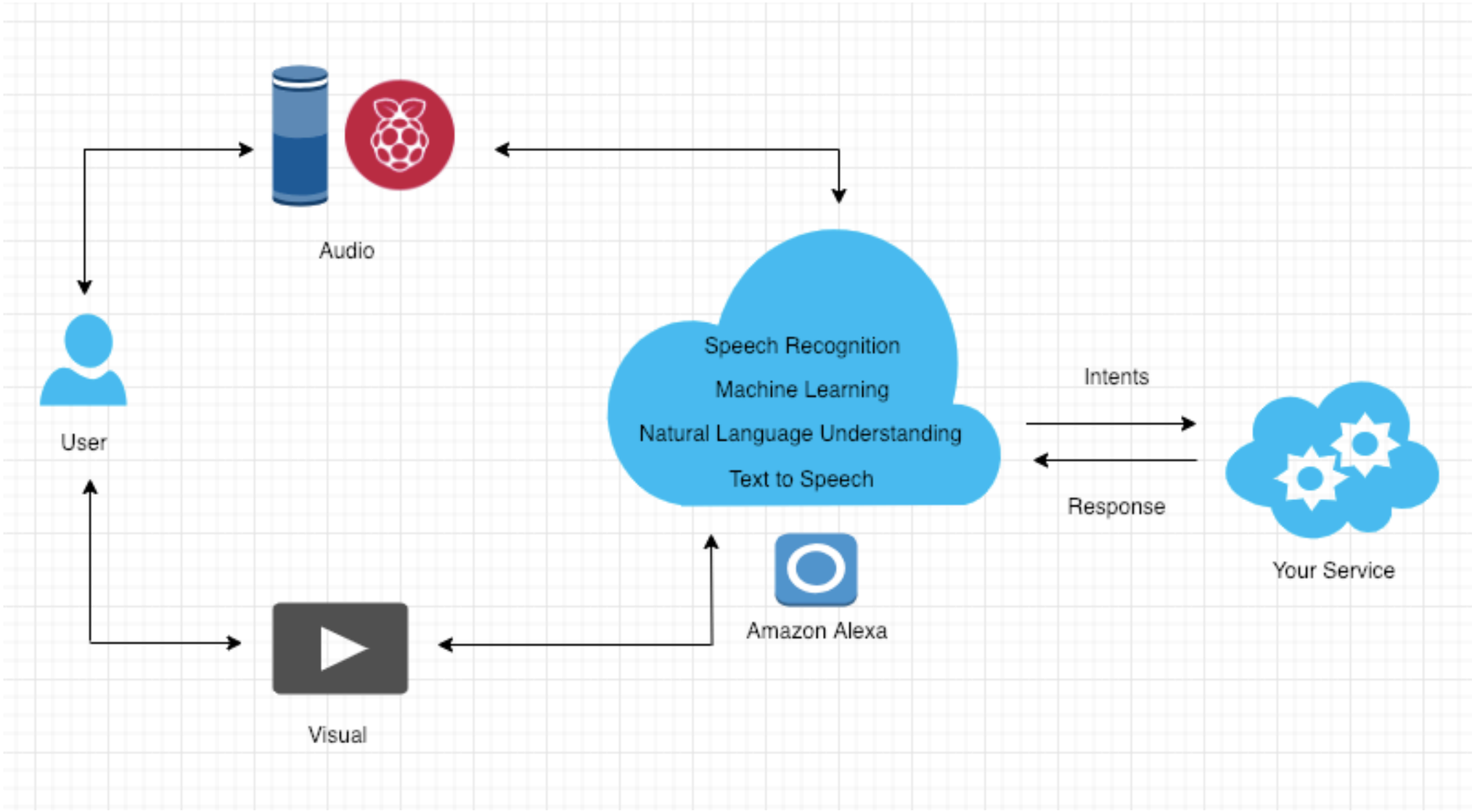
https://github.com/alexa/avs-device-sdk/wiki/Build-Options

Alexa Skills App



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 LEO

utterance | slot value

HelloWorldIntent

HoroscopeIntent

Intent

{value: “LEO”}

slot value

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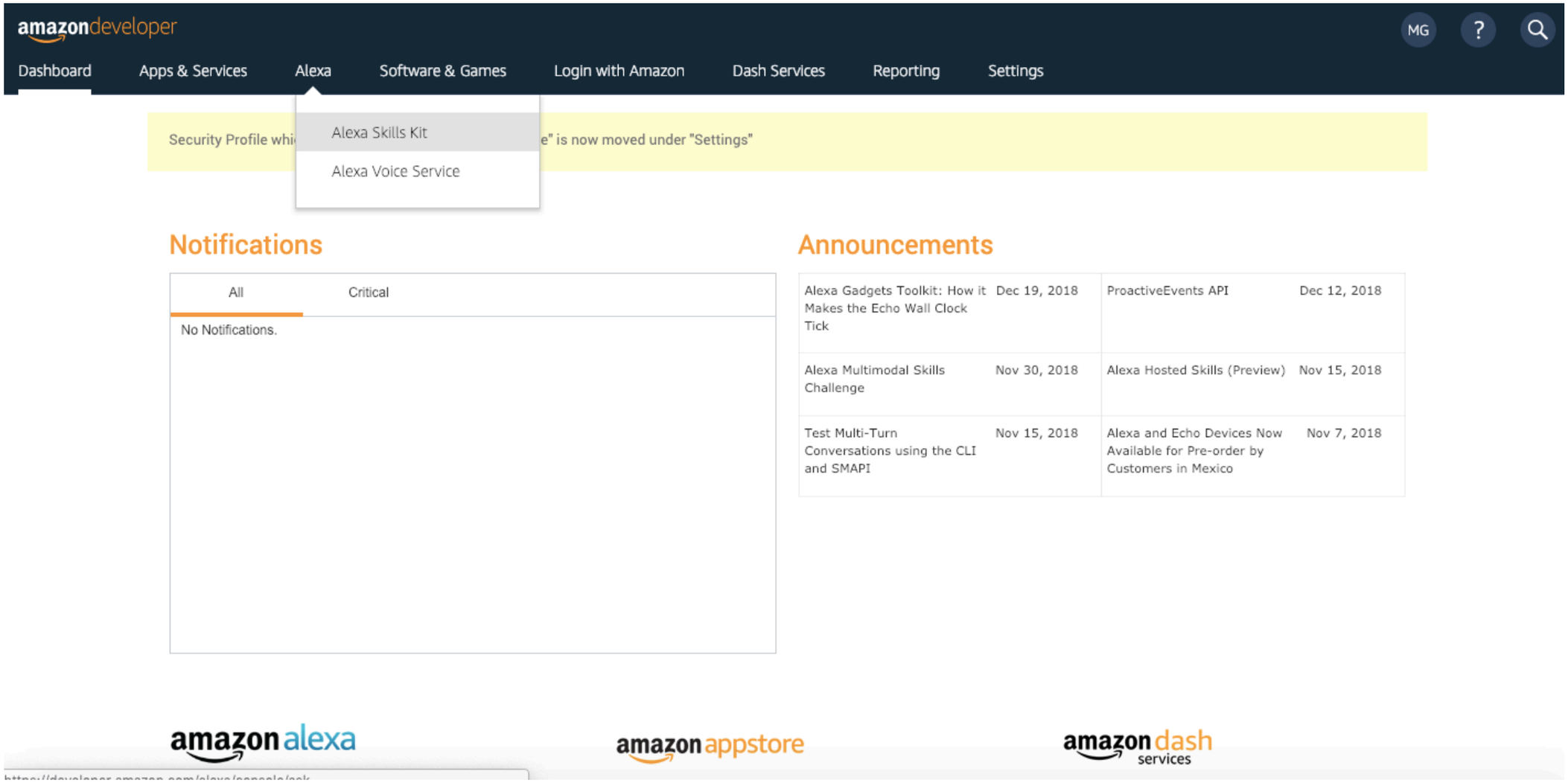
What Kind of Skill Do You Want to Create?

- **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

developer.amazon.com



Alexa Development Types

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Alexa Skills

Create Skill

SKILL NAME	LANGUAGE	TYPE	MODIFIED	STATUS	ACTIONS
partner portal View Skill ID	English (US)	Custom	2018-11-17	In Development	Analytics | Edit | Delete
Sunny Philippines View Skill ID	English (US)	Custom	2018-11-05	In Development	Analytics | Edit | Delete
vlogpress View Skill ID	English (US)	Custom	2018-07-14	In Development	Analytics | Edit | Delete
AlexaChamp.com Hello Wo... View Skill ID	English (US)	Custom	2018-01-21	In Development	Analytics | Edit | Delete
unionbank View Skill ID	English (US)	Custom	2017-12-01	In Development	Analytics | Edit | Delete
AWS Group PH View Skill ID	English (US)	Custom	2017-11-13	In Development	Analytics | Edit | Delete

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Create a new skill

Cancel | Create skill

Skill name

Giga Mike

9/50 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

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Choose a template

Choose

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

SELECTED

Start from scratch

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

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

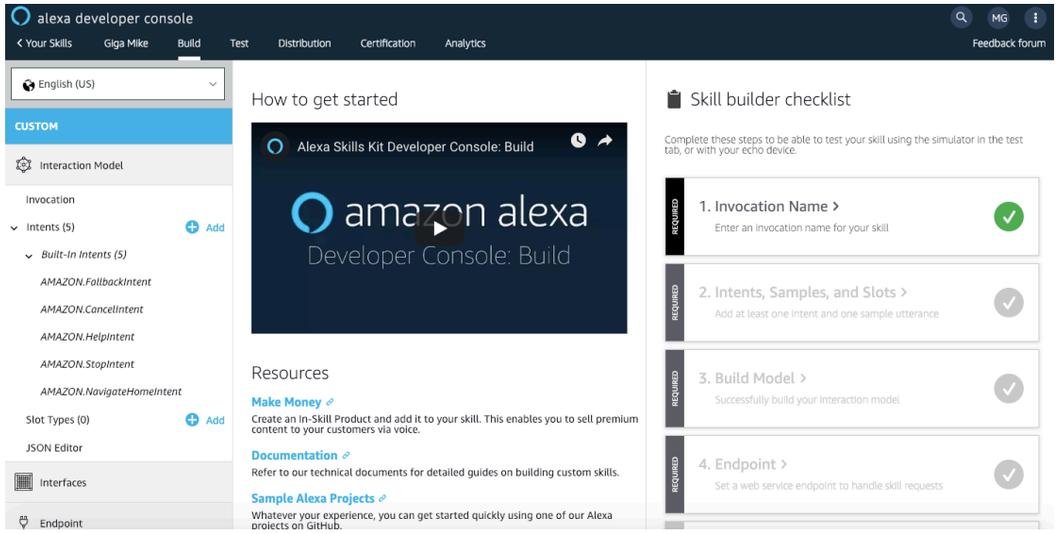
Provided a list of interesting facts about a topic, Alexa will quiz a user with facts from the list. Includes 1 custom intent with 1 slot, and 6 built-in intents.

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.

developer.amazon.com

- **Build**
  - **Interaction Model**
    - **Invocation Name** = App Name
    - **Intents** = Events and Functions
    - **Interface** = How you display
    - **Endpoint** = Lambda or HTTPS



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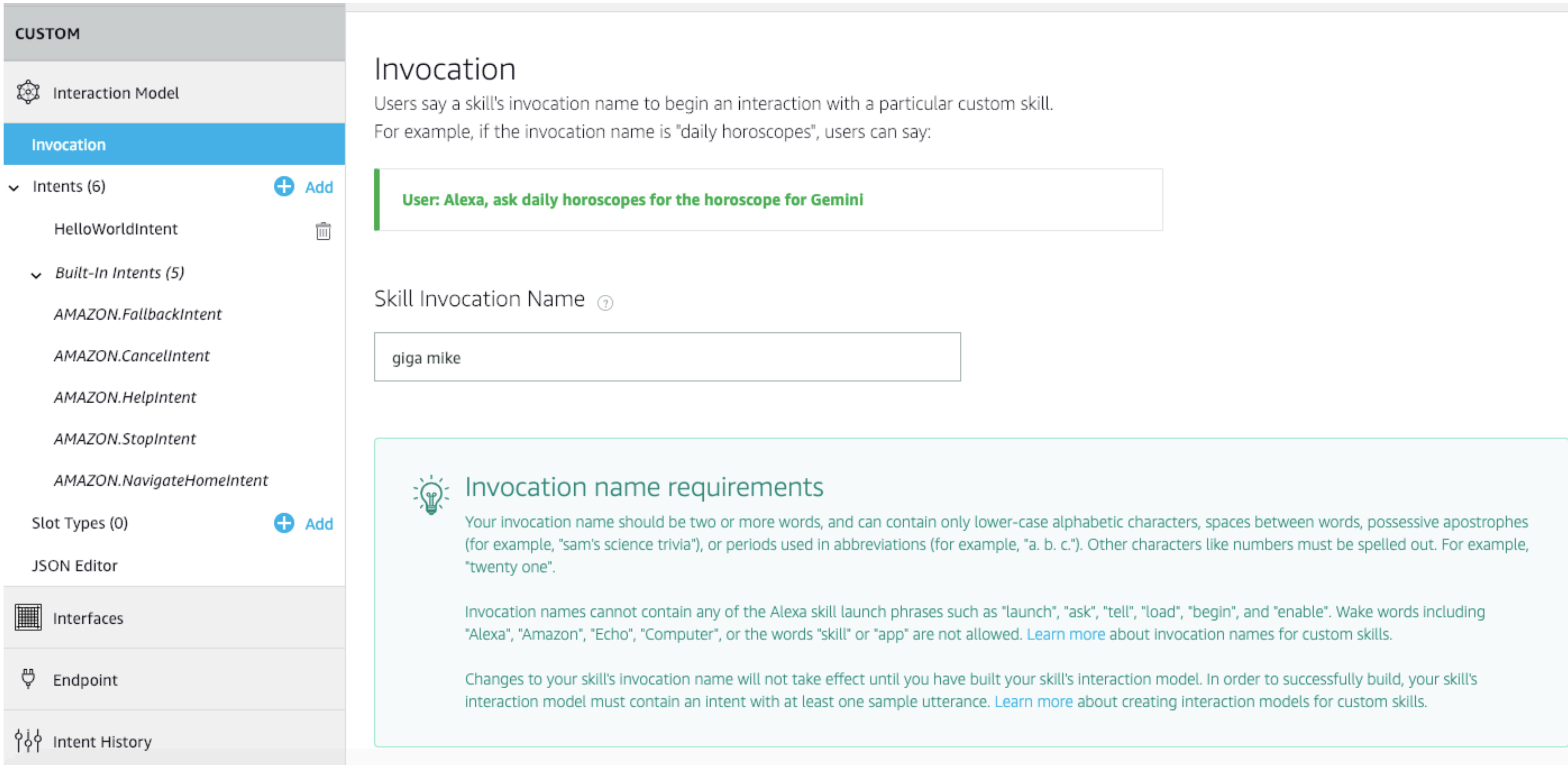

Invocation

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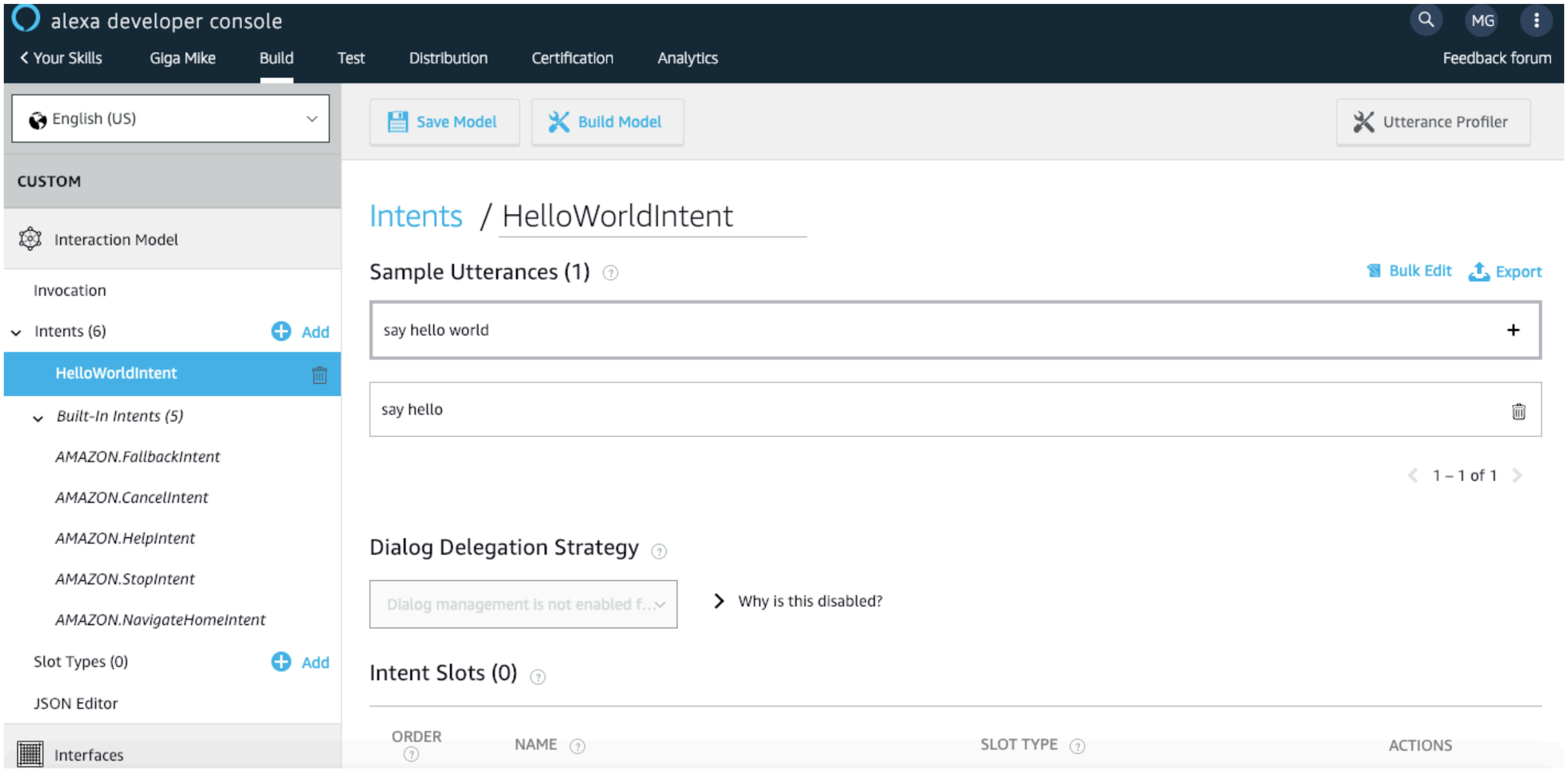

Intents

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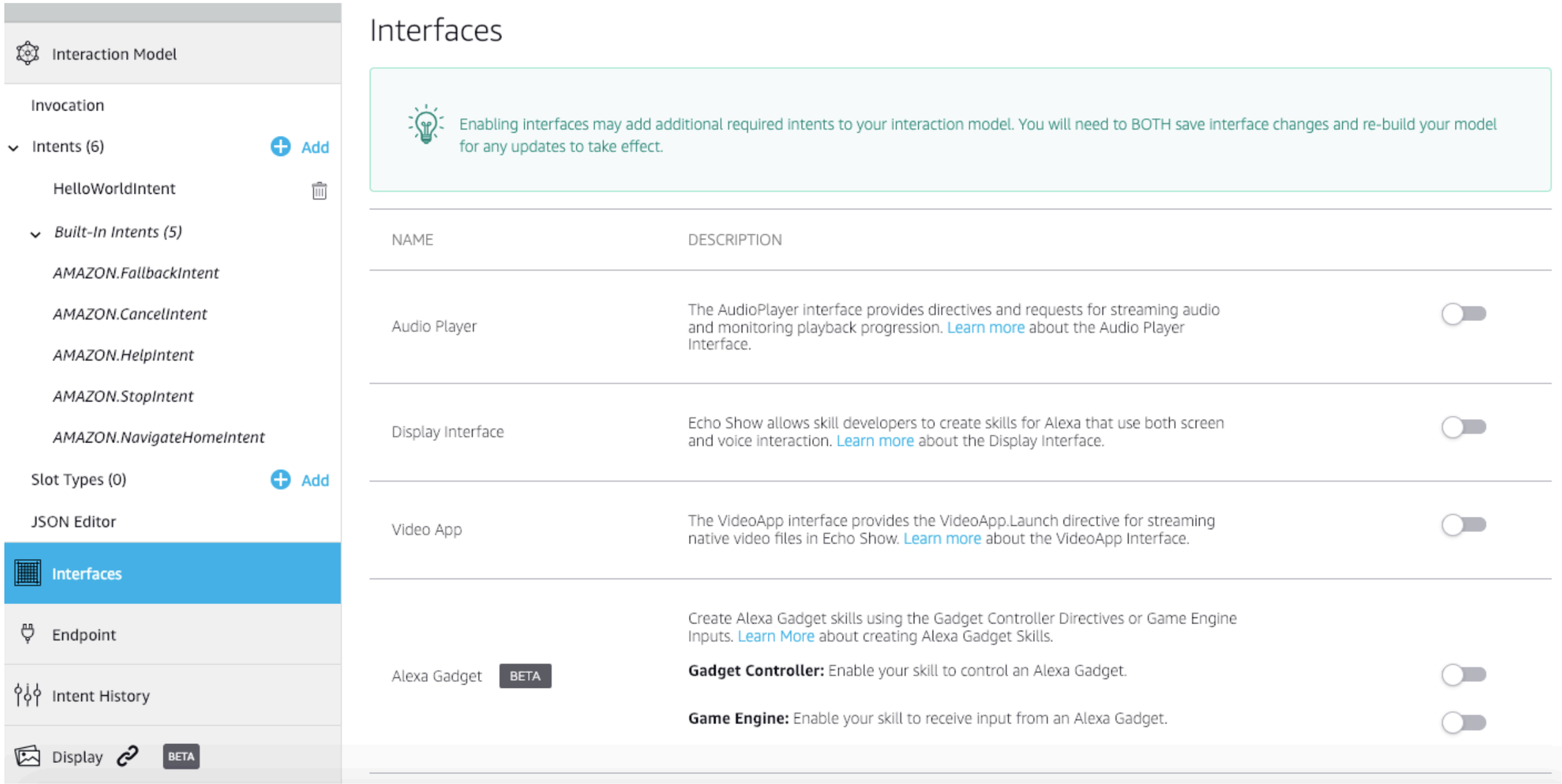

Interface

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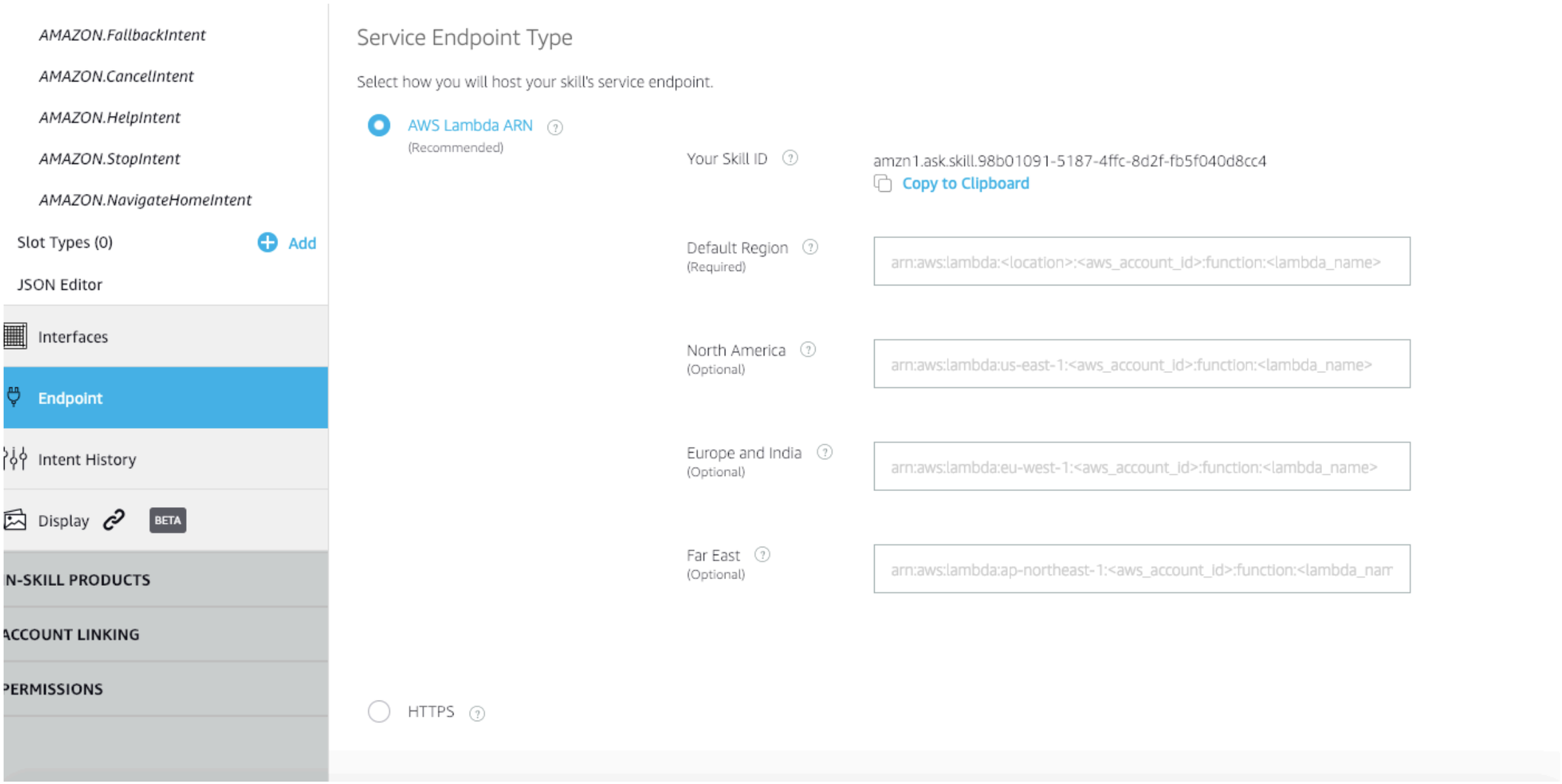

Endpoint

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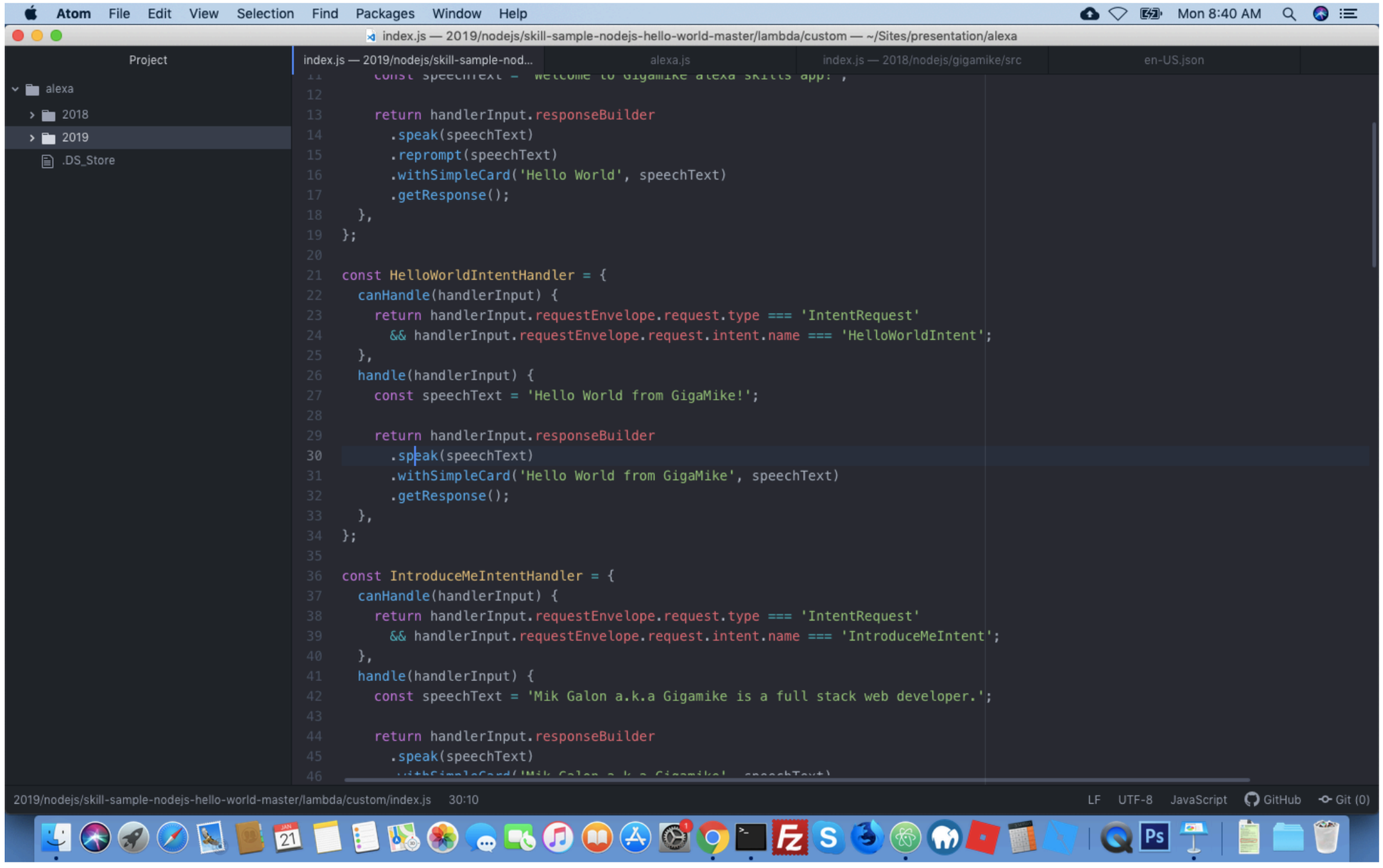
Endpoint

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

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

NodeJS



npm install

https://github.com/alexa/skill-sample-nodejs-hello-world

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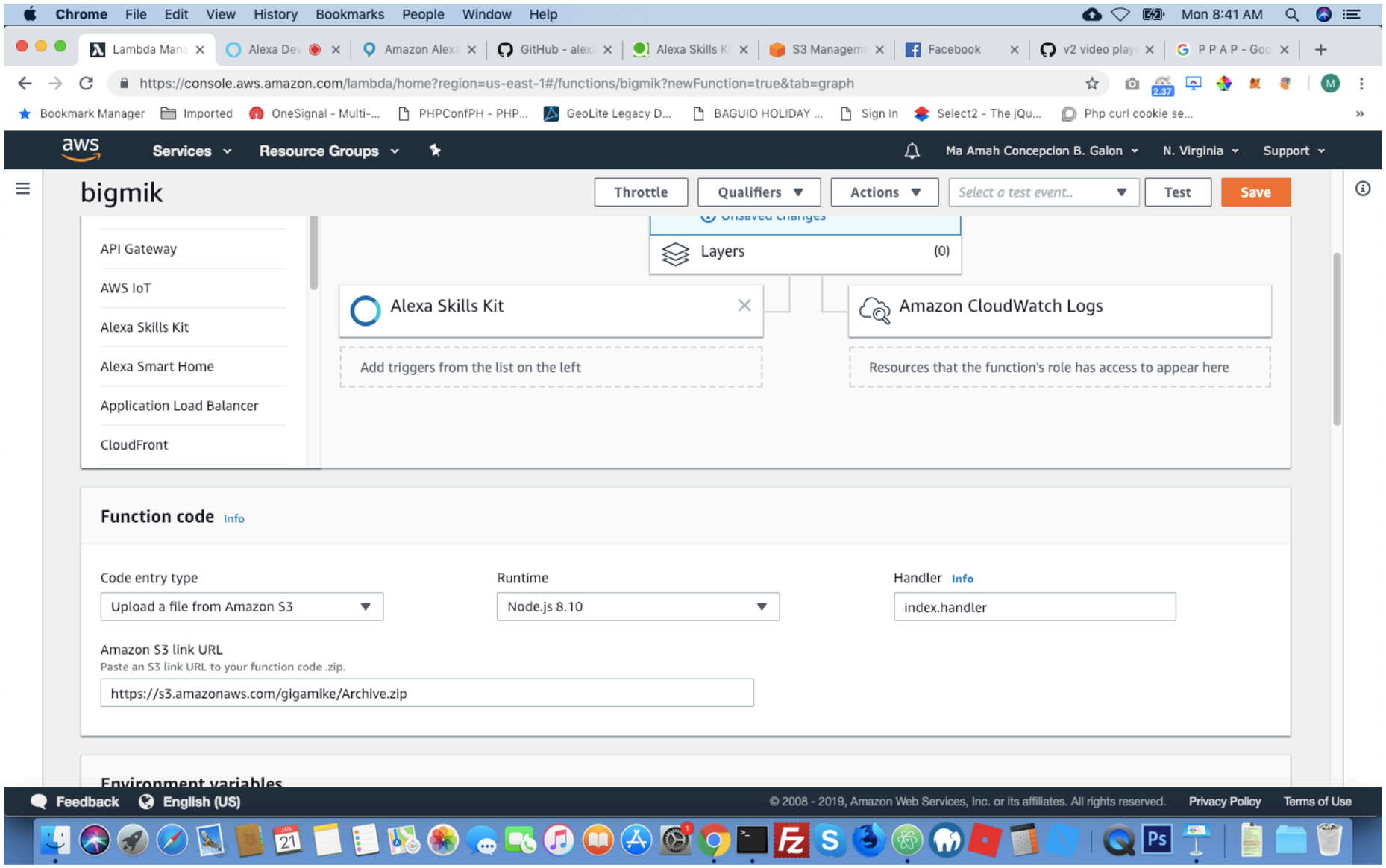
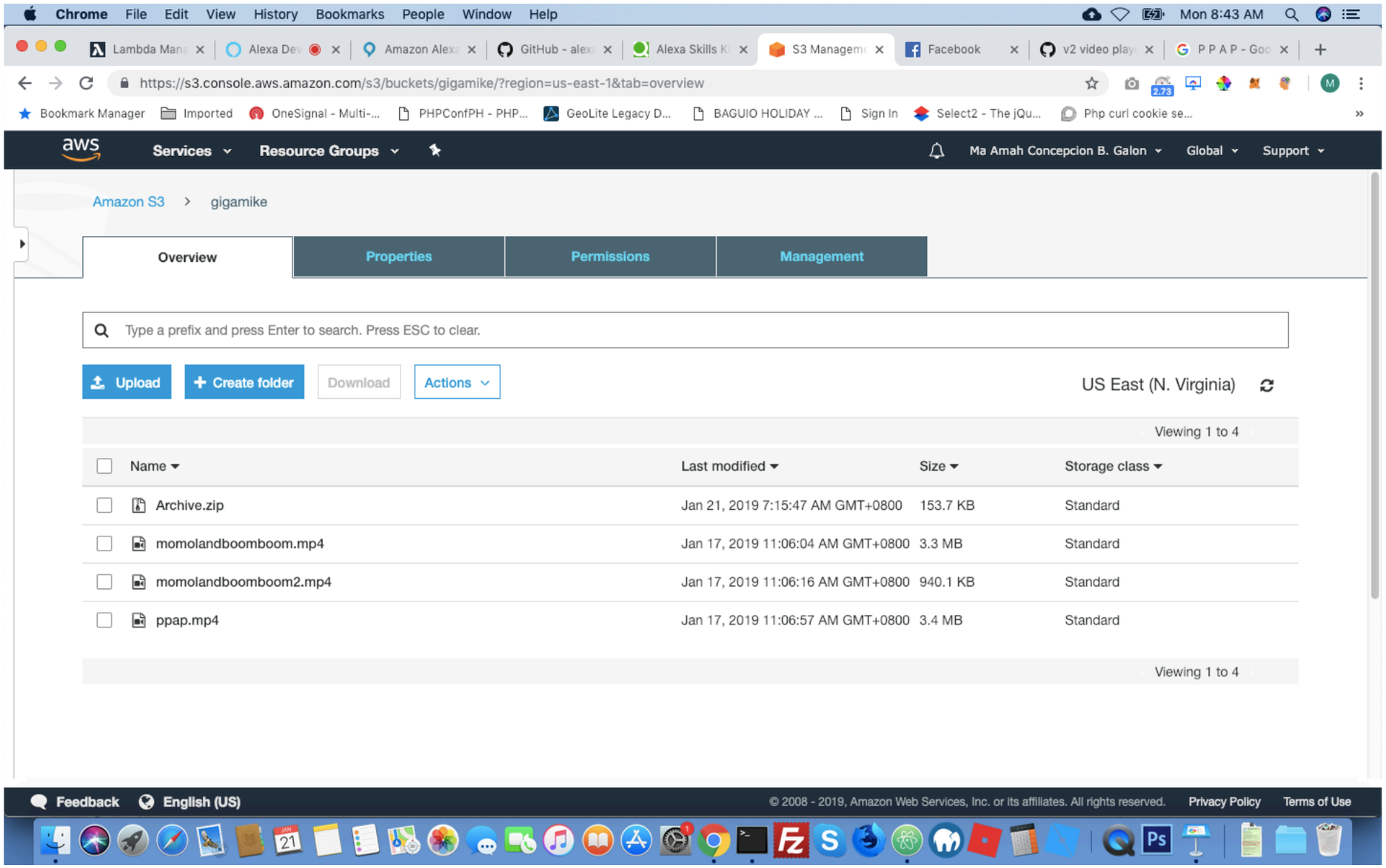
Lambda



Lambda

Amazon Web Services

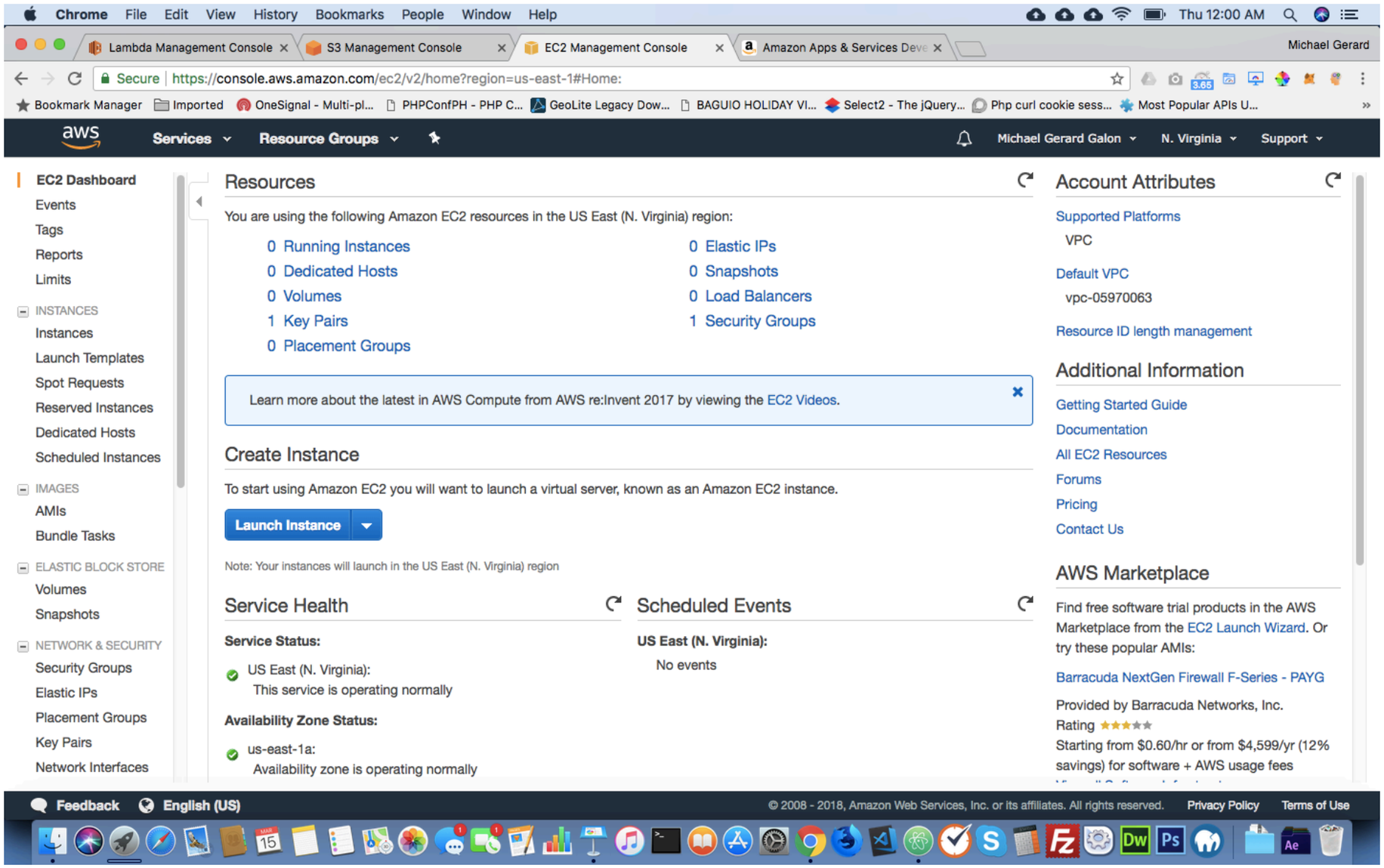


S3

Alexa: “Hello World” using HTTPS endpoint

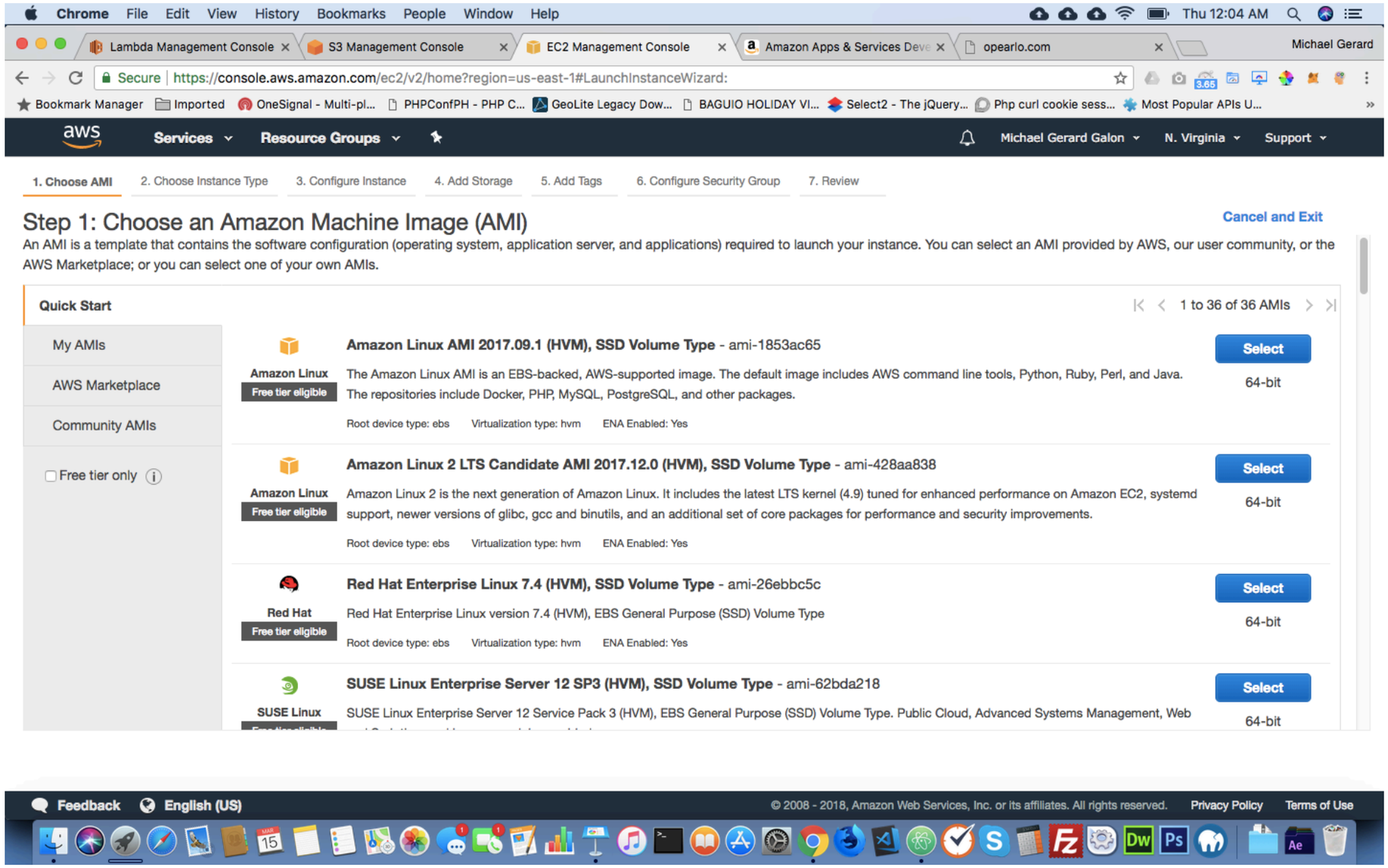
- **Amazon Web Services Account**
  - EC2, Route53
- **LAMP Stack**
  - Amazon Linux, Apache, MySQL and PHP
- **SSL/HTTPS**
  - https://certbot.eff.org/
- **Alexa PHP Endpoint**
  - https://github.com/MayBeTall/Alexa-PHP-Endpoint

Alexa: “Hello World” using HTTPS endpoint



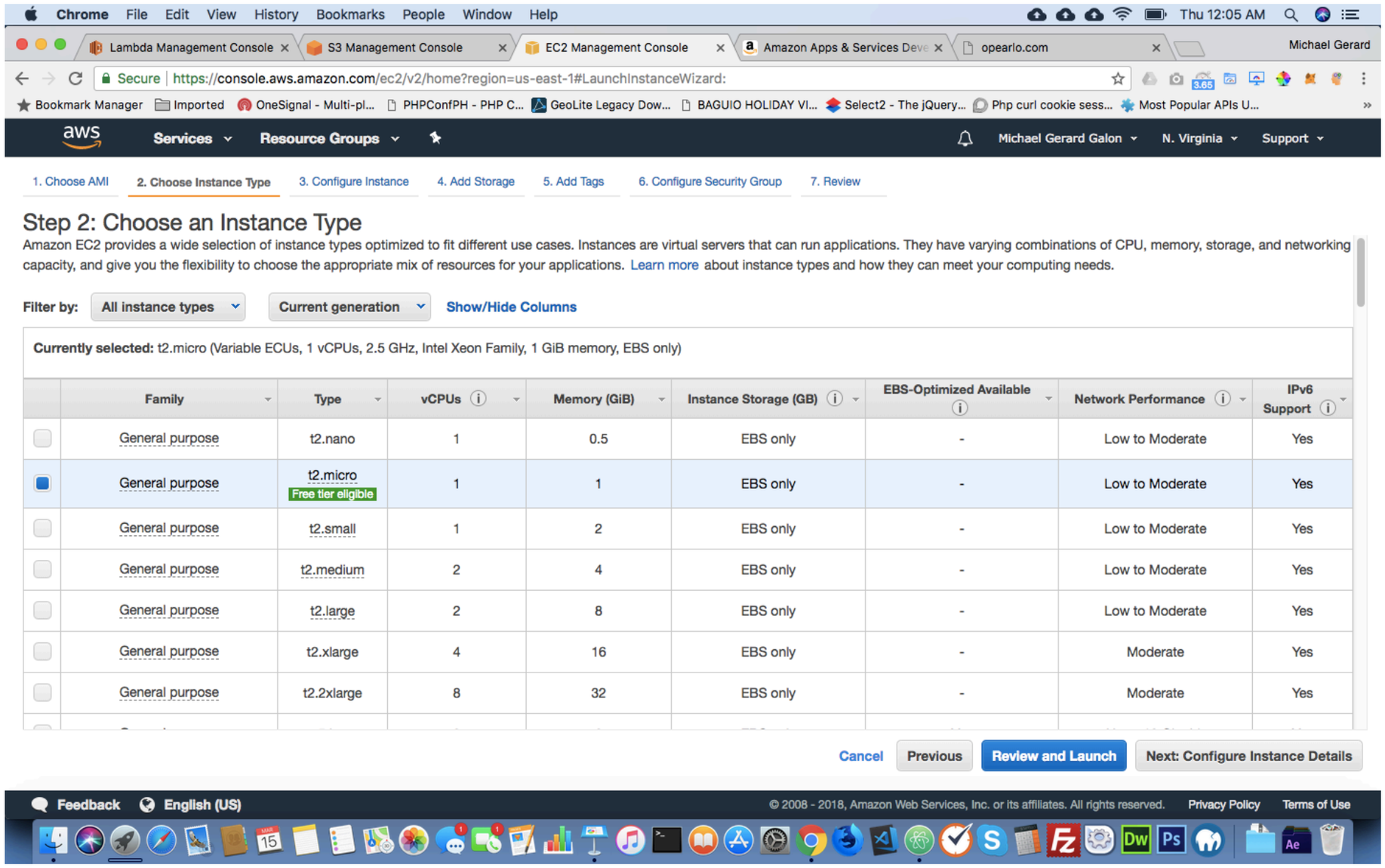
EC2

Alexa: “Hello World” using HTTPS endpoint



Operating System

Alexa: “Hello World” using HTTPS endpoint



Instance Type

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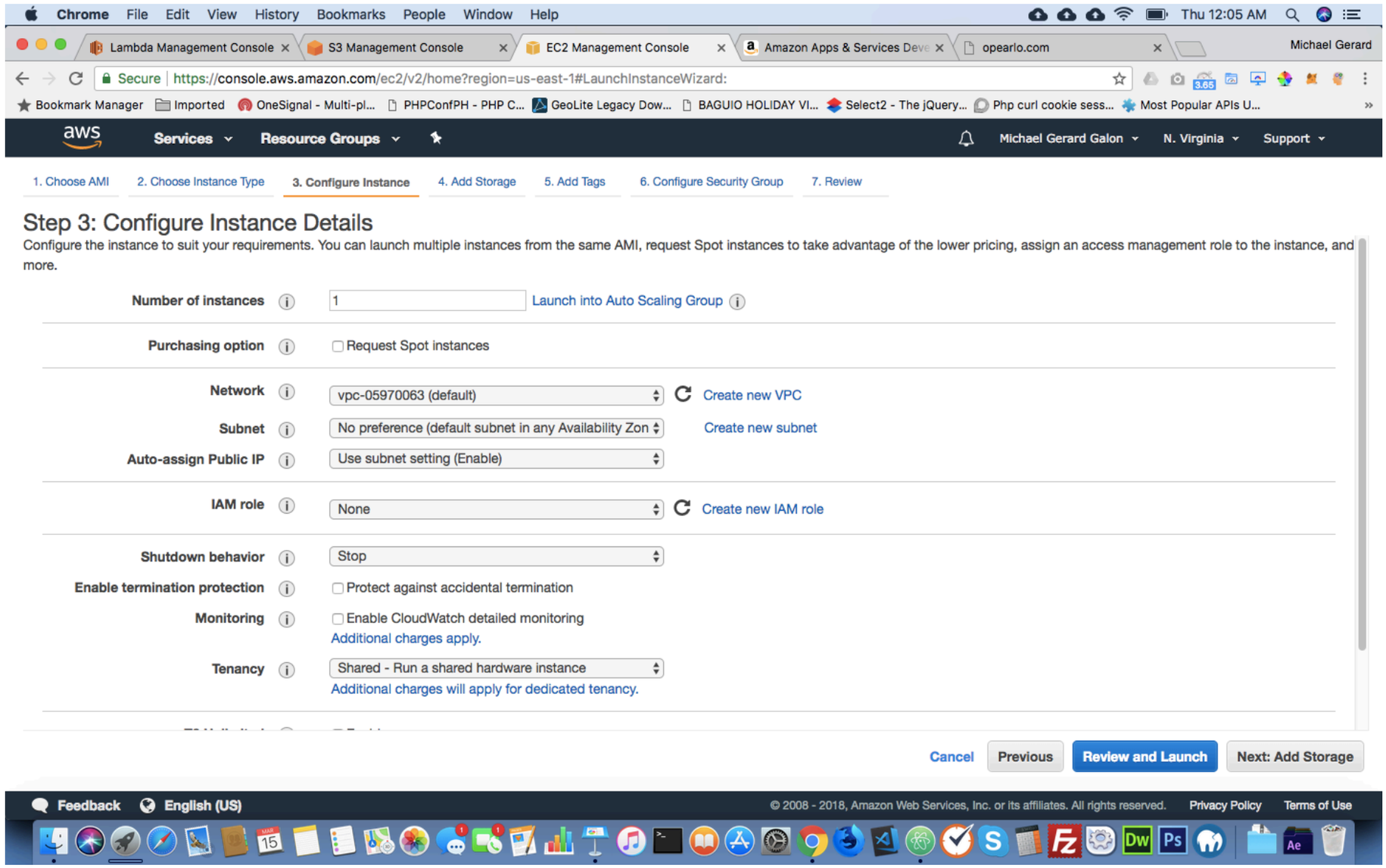
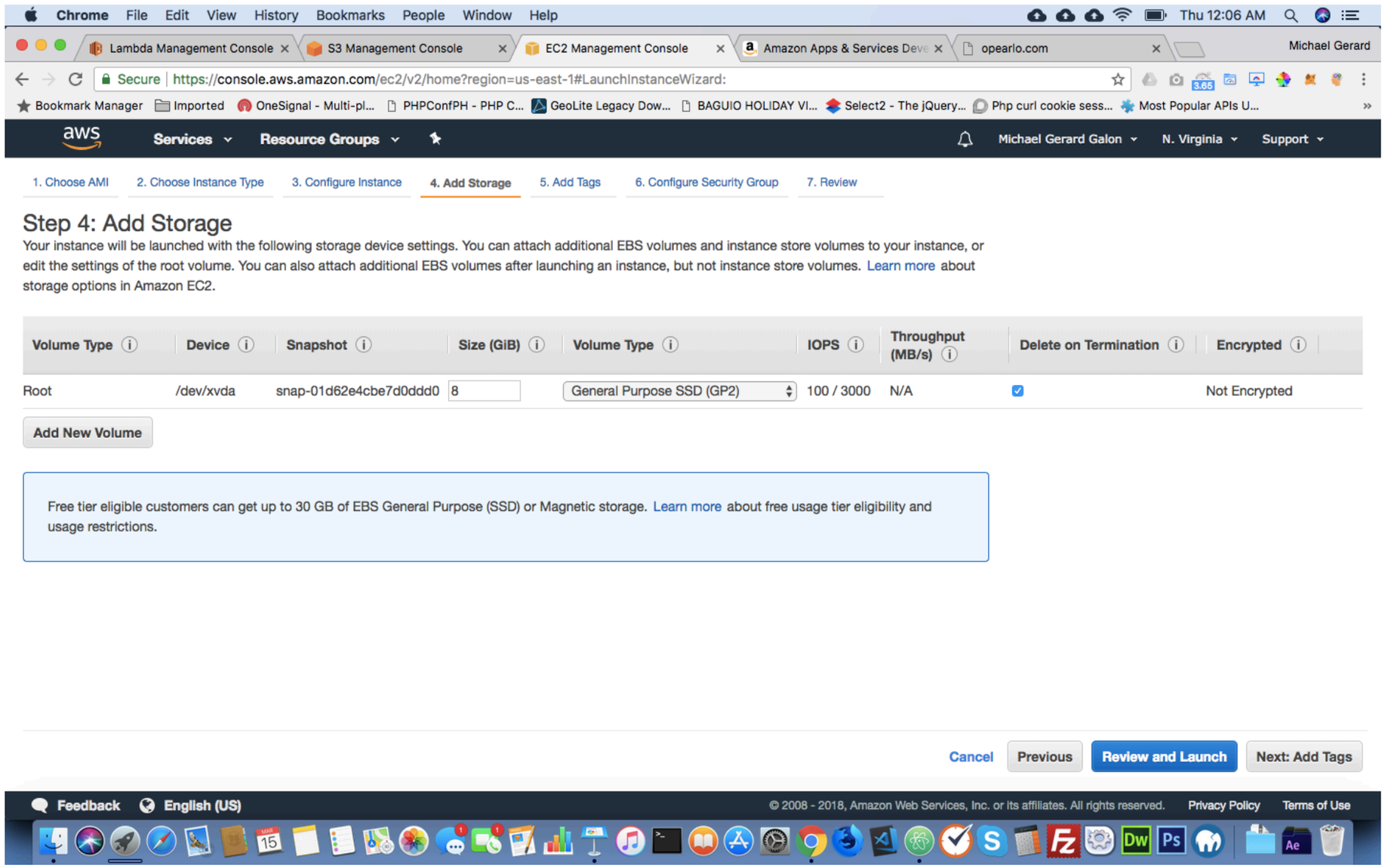
Alexa: “Hello World” using HTTPS endpoint



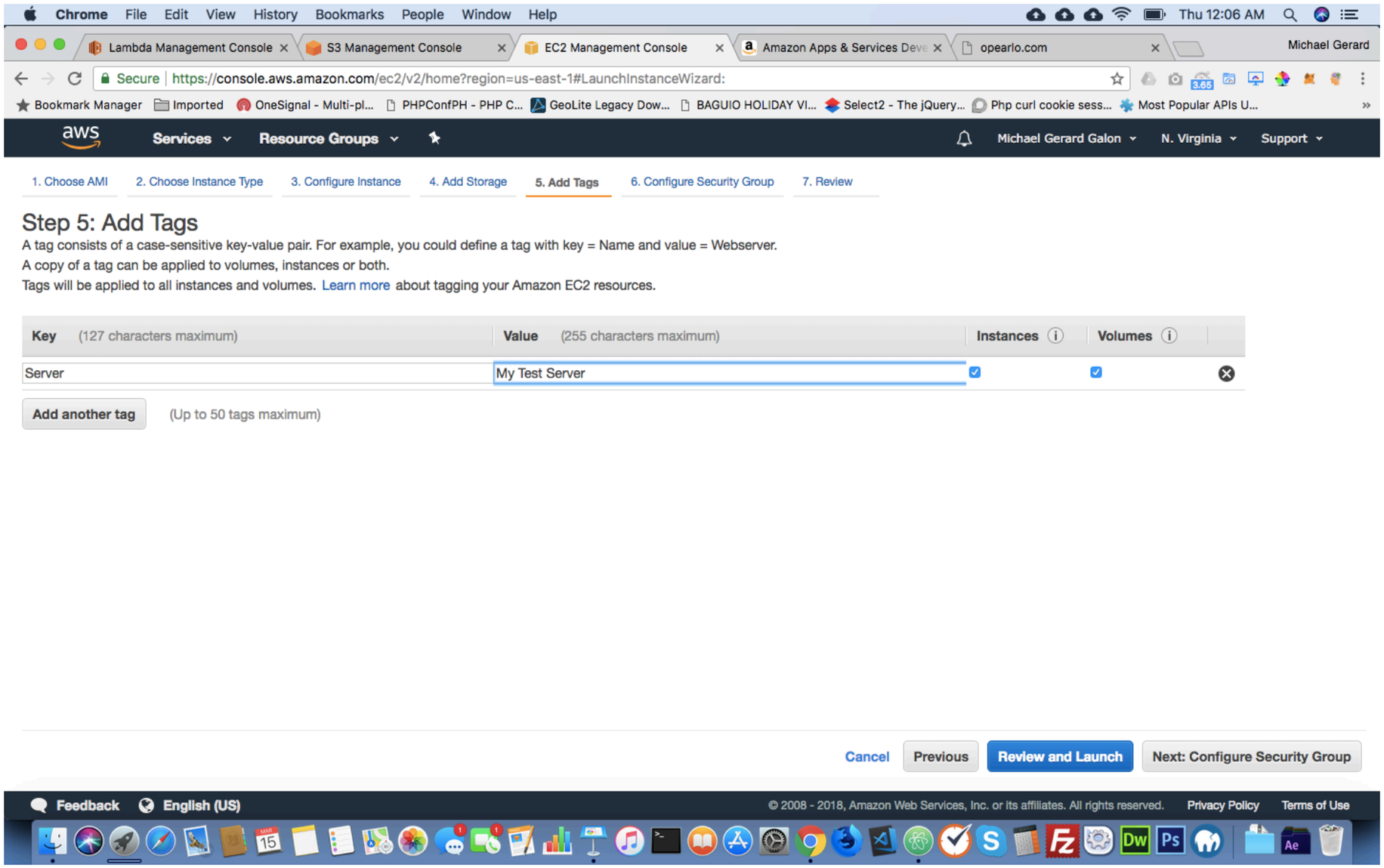
VPC

Alexa: “Hello World” using HTTPS endpoint



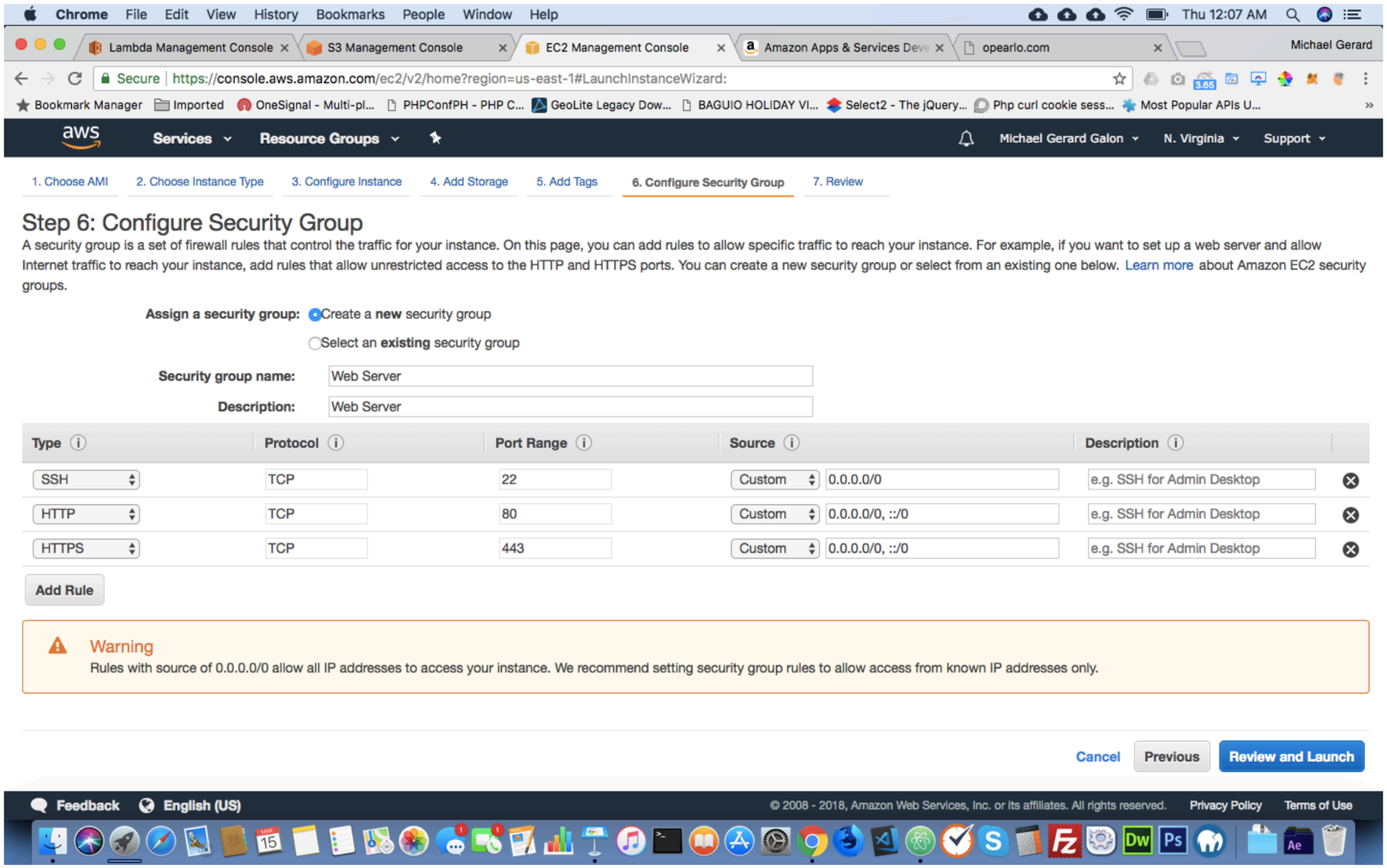
Storage

Alexa: “Hello World” using HTTPS endpoint



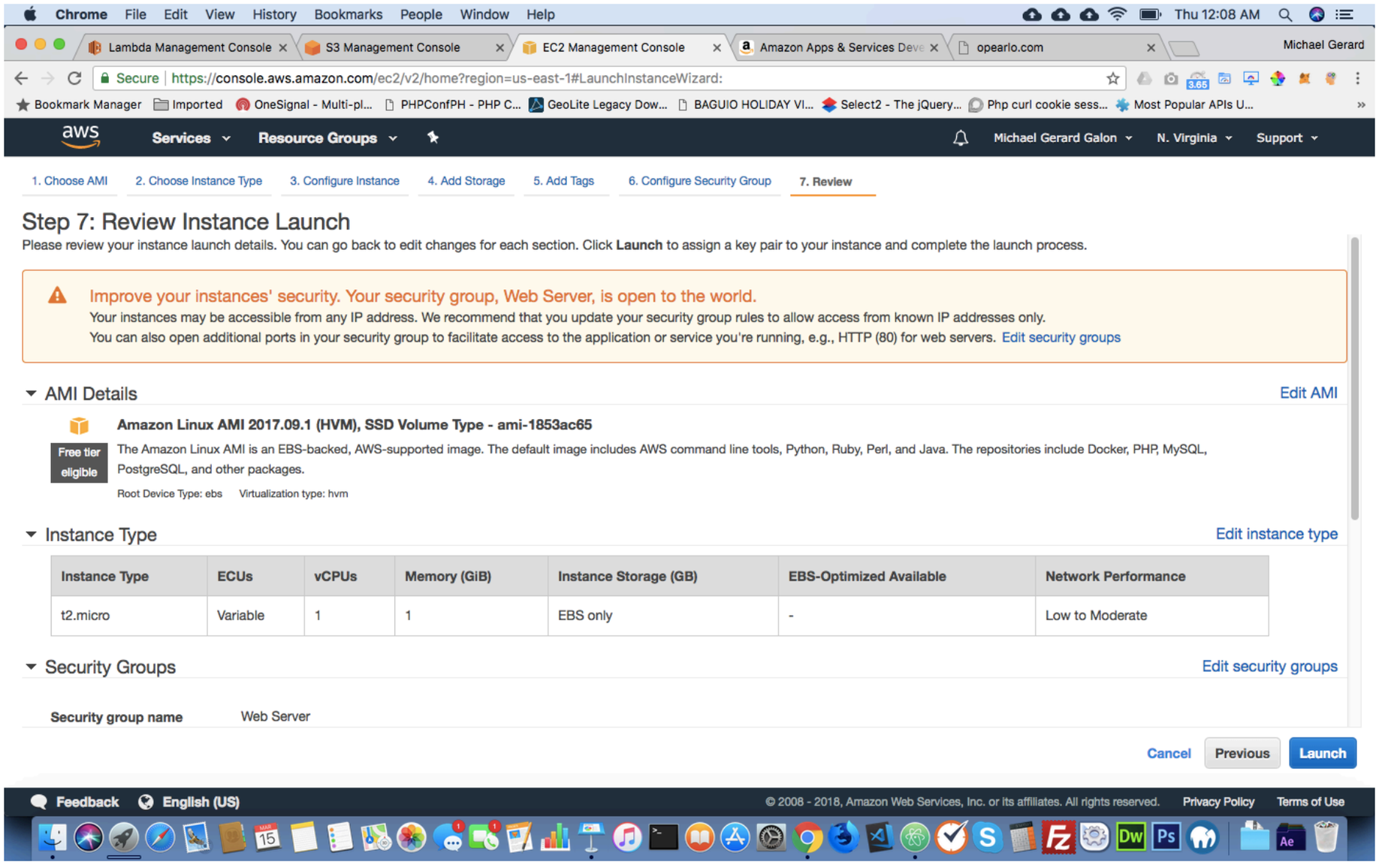
Tags

Alexa: “Hello World” using HTTPS endpoint



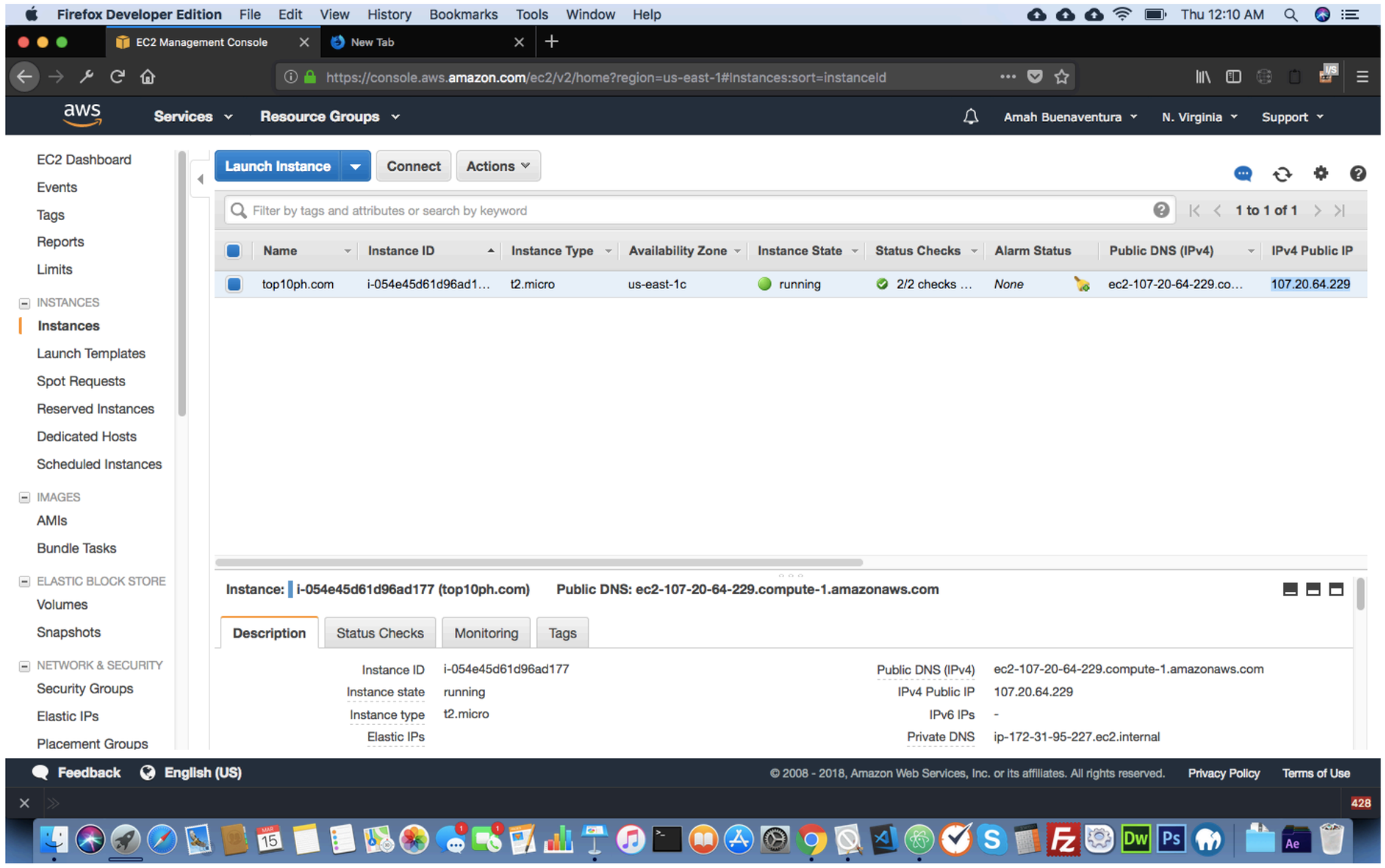
Security Groups

Alexa: “Hello World” using HTTPS endpoint



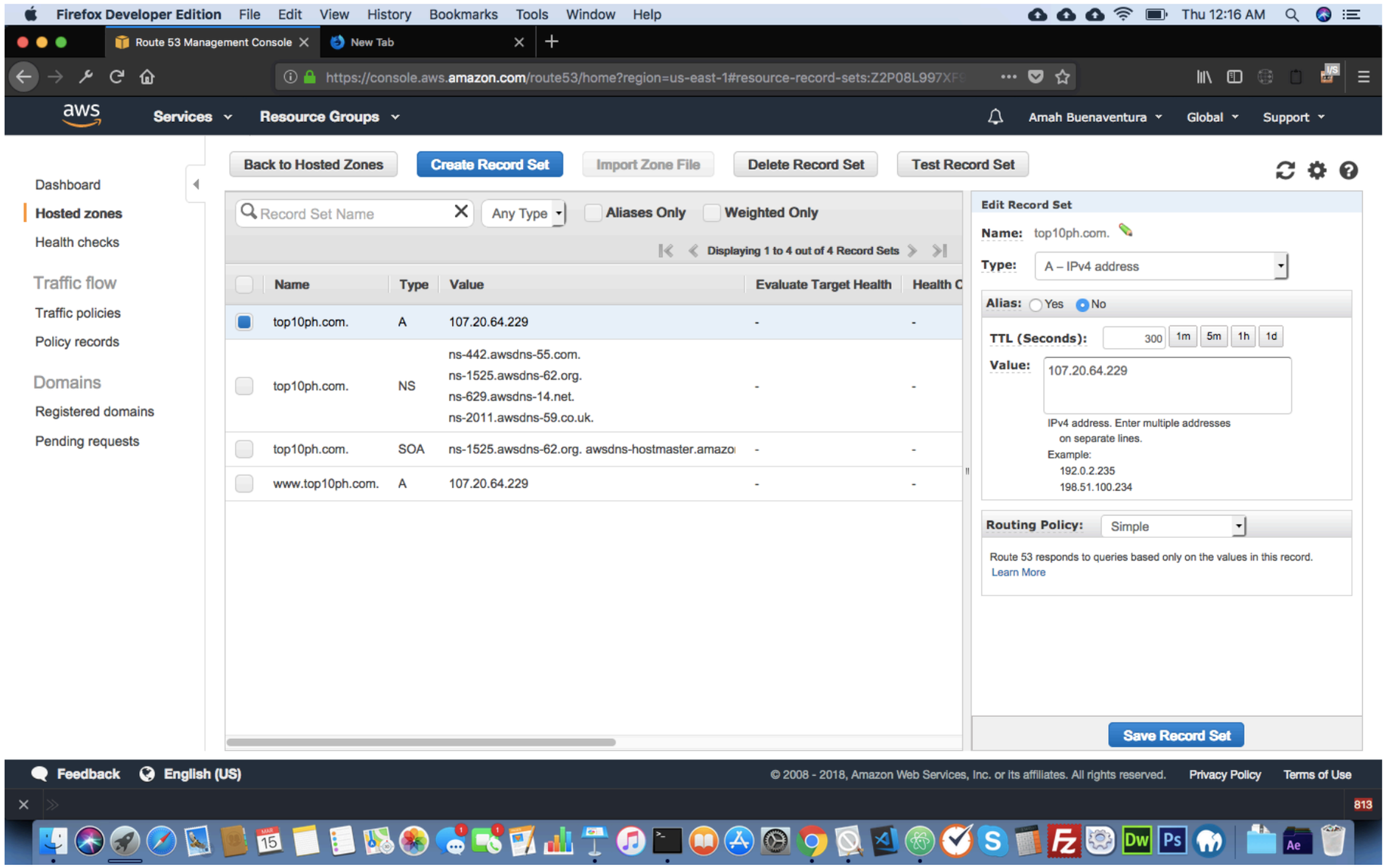
EC2 Instance Review

Alexa: “Hello World” using HTTPS endpoint



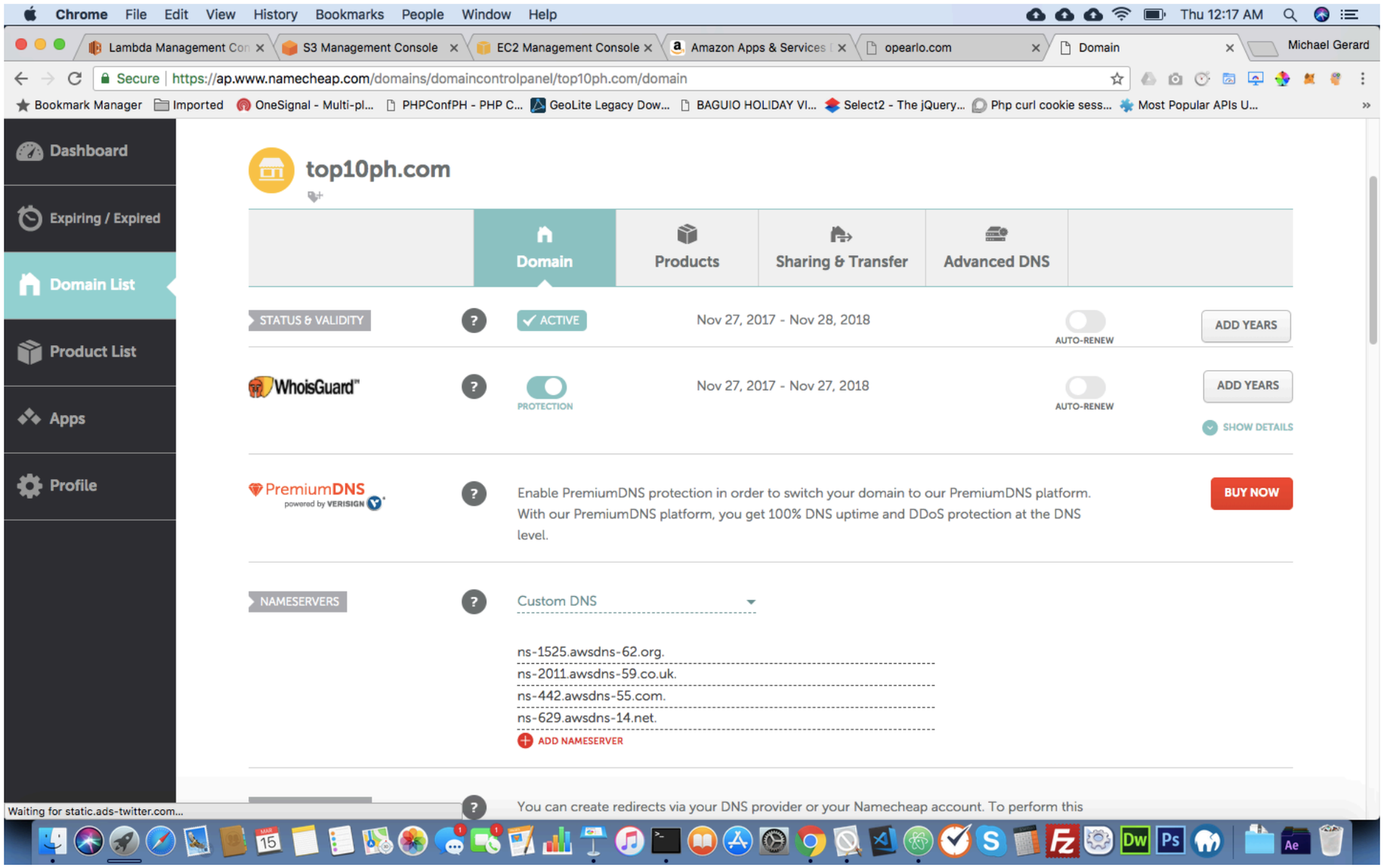
EC2 Instance Up

Alexa: “Hello World” using HTTPS endpoint



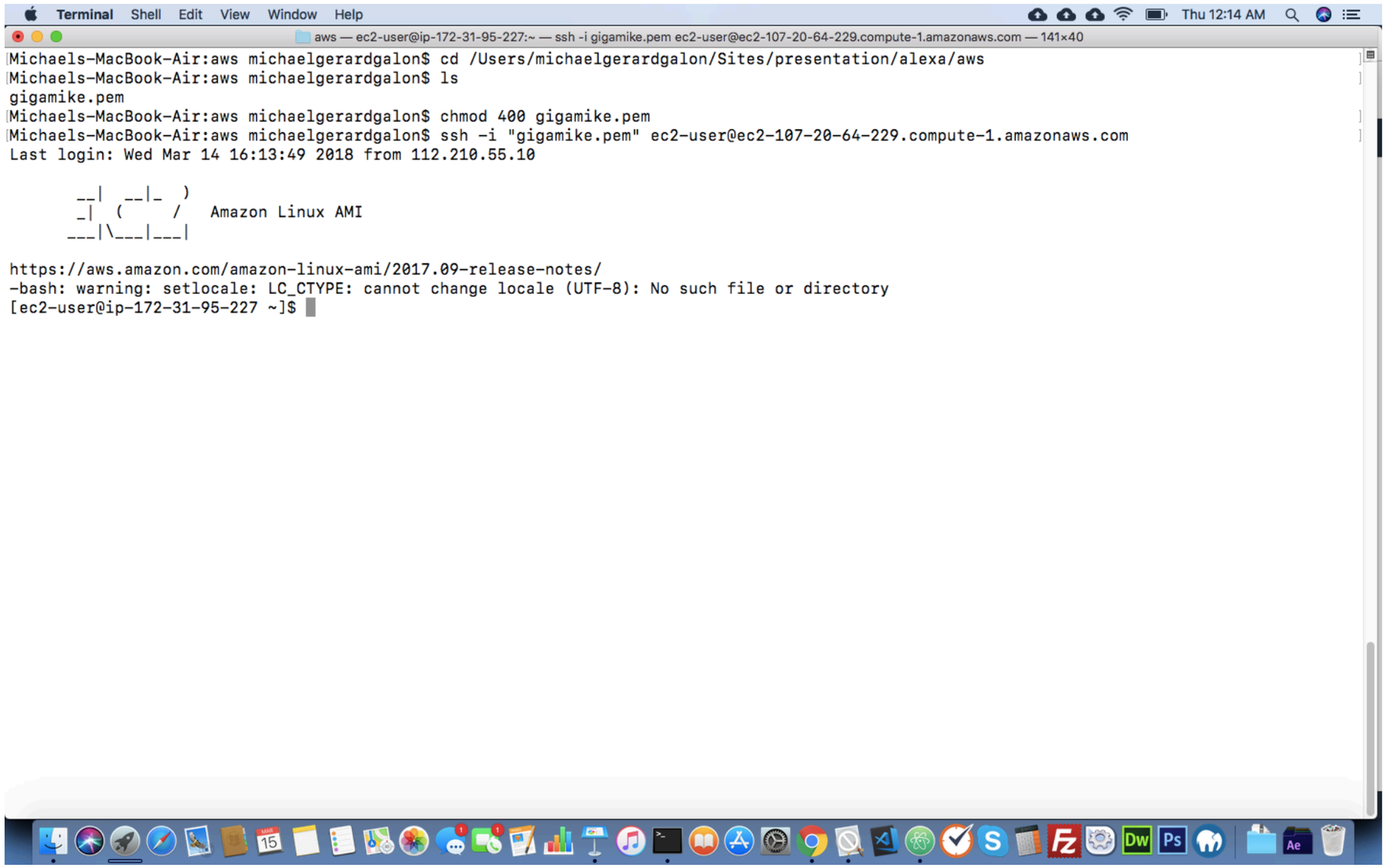
Route53

Alexa: “Hello World” using HTTPS endpoint



Domain Registrar

Alexa: “Hello World” using HTTPS endpoint



SSH Access EC2

Alexa: “Hello World” using HTTPS endpoint

Access EC2 via SSH

```
chmod 400 gigamike.pem
ssh -i "gigamike.pem" ec2-user@ec2-54-82-253-160.compute-1.amazonaws.com
```

Installing Apache PHP

```
sudo yum update -y
sudo yum install -y httpd24 php70
sudo yum install -y mod24_ssl
sudo service httpd start
sudo chkconfig httpd on
sudo usermod -a -G apache ec2-user
exit
sudo chown -R ec2-user:apache /var/www
sudo chmod 2775 /var/www
```

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Alexa: “Hello World” using HTTPS endpoint

Apache Configuration

```
cd /var/www/
mkdir top10ph.com
cd top10ph.com/
mkdir public_html
echo "Hello World" > /var/www/domain.com/public_html/index.php
sudo mkdir /etc/httpd/sites-available
sudo mkdir /etc/httpd/sites-enabled
sudo vi /etc/httpd/conf/httpd.conf
Add this line: IncludeOptional sites-enabled/*.conf
sudo vi /etc/httpd/sites-available/domain.com.conf
<VirtualHost *:80>
    ServerName www.domain.com
    ServerAlias domain.com
    DocumentRoot /var/www/domain.com/public_html
    ErrorLog /var/www/domain.com/error.log
    CustomLog /var/www/domain.com/requests.log combined
</VirtualHost>
sudo ln -s /etc/httpd/sites-available/domain.com.conf /etc/httpd/sites-enabled/domain.com.con
find /var/www -type d -exec sudo chmod 2775 {} \;
find /var/www -type f -exec sudo chmod 0664 {} \;
apachectl restart
```

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Alexa: “Hello World” using HTTPS endpoint

Installing SSL/HTTPS

```
sudo yum-config-manager --enable epel
sudo wget https://dl.eff.org/certbot-auto
sudo chmod a+x certbot-auto
sudo ./certbot-auto --debug
```

Installing Git

```
cd /var/www/domain/public_html
sudo yum install git -y
git clone https://github.com/MayBeTall/Alexa-PHP-Endpoint.git
```

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Alexa: “Hello World” using HTTPS endpoint

Terminal Shell Edit View Window Help — Thu 12:21 AM

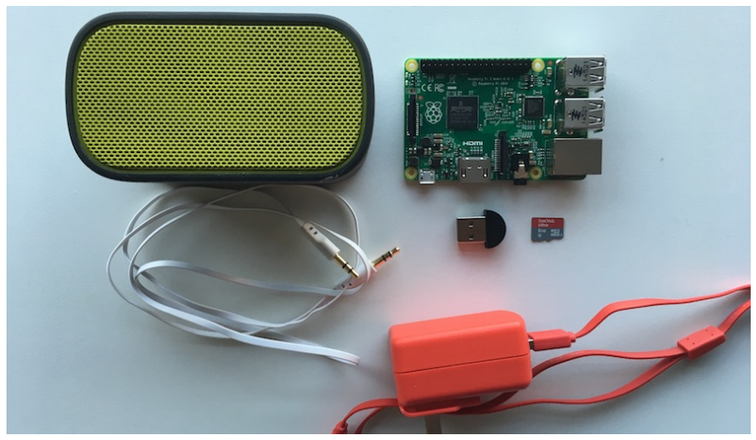
aws — ec2-user@ip-172-31-95-227:/var/www/top10ph.com/public_html/Alexa-PHP-Endpoint — ssh -i gigamike.pem ec2-user@ec2-107-20-64-229.compute-1.amazonaws.com — 141×40

```php
<?php
// Include the library
require __DIR__ . '/alexa-endpoint/autoload.php';

// Import classes
use MayBeTall\Alexa\Endpoint\Alexa;
use MayBeTall\Alexa\Endpoint\User;

// Sets everything up.
Alexa::init();

// User launched the skill (Alexa launch Hello World).
Alexa::enters(function() {
    // Say something and close the app
    Alexa::say('Hello FEU!');
});

// User triggered the 'HelloWorldIntent' intent from the Skill Builder
User::triggered('HelloWorldIntent', function() {
    // Say something and close the app
    Alexa::say('Hello F E U Tamaraws!');
});

// User exited the skill.
Alexa::exits(function() {
    /**
     * Alexa will not say anything you send in reply, but it is important
     * to have this here because she will give an error message if we
     * don't acknowledge the skill's exit.
     */
});
~
~
~
~
~
~
~
~
"helloworld.php" 31L, 829C                                    1,1           All
```

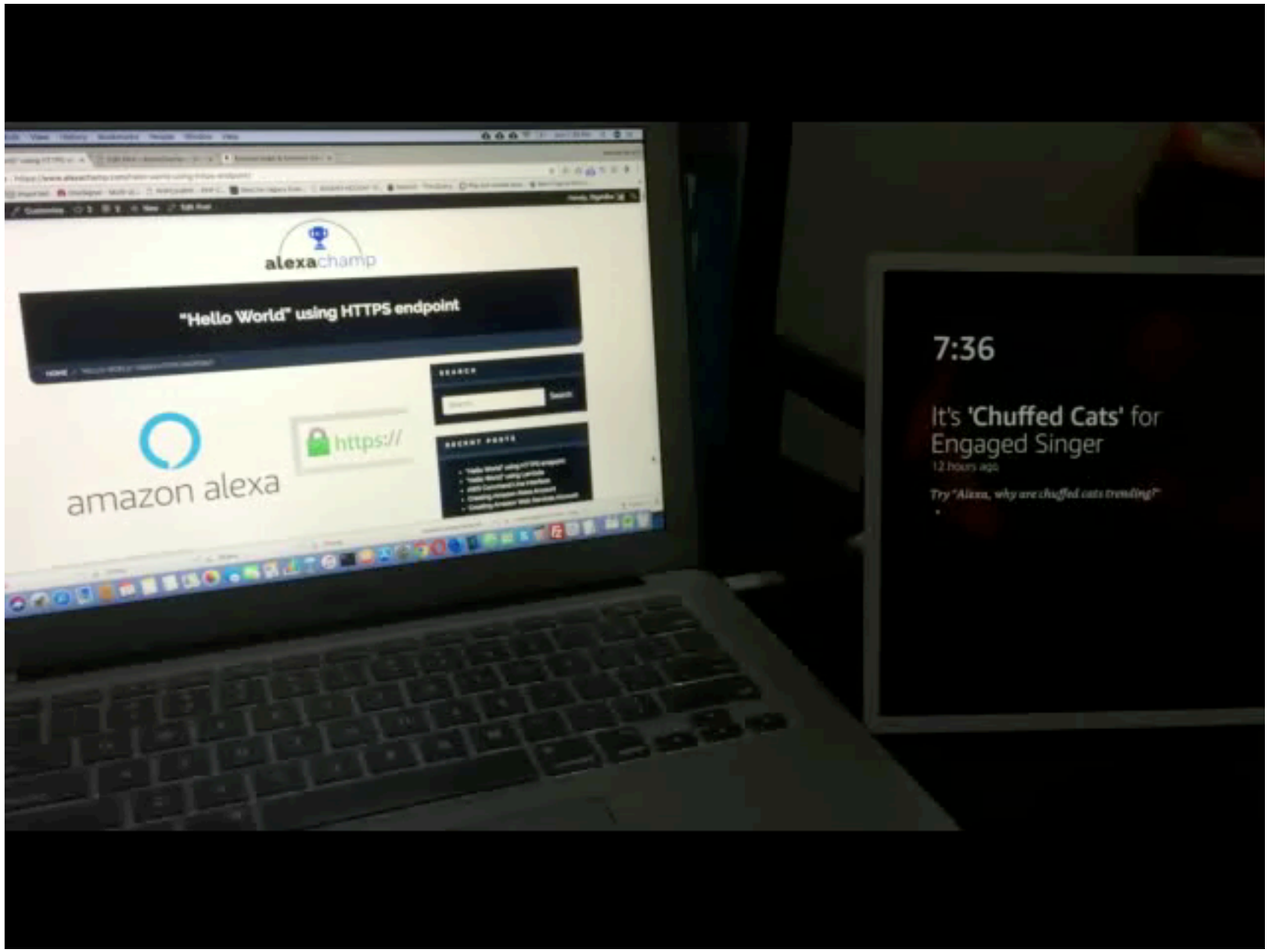
PHP Script

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/



Alexa: “Hello World”



Others/Tools

- **Alexa Skills Kit**
  - https://developer.amazon.com/docs/ask-overviews/build-skills-with-the-alexa-skills-kit.html
- **AWS CLI**
  - https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-welcome.html
- **Editor**
  - Atom, Visual Studio Editor
- **Debugging**
  - Cloudwatch
- **Programming Language Framework**
  - NodeJS: Mocha Test Framework
  - Python: Flask-Ask
- **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/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 Beta Exam**

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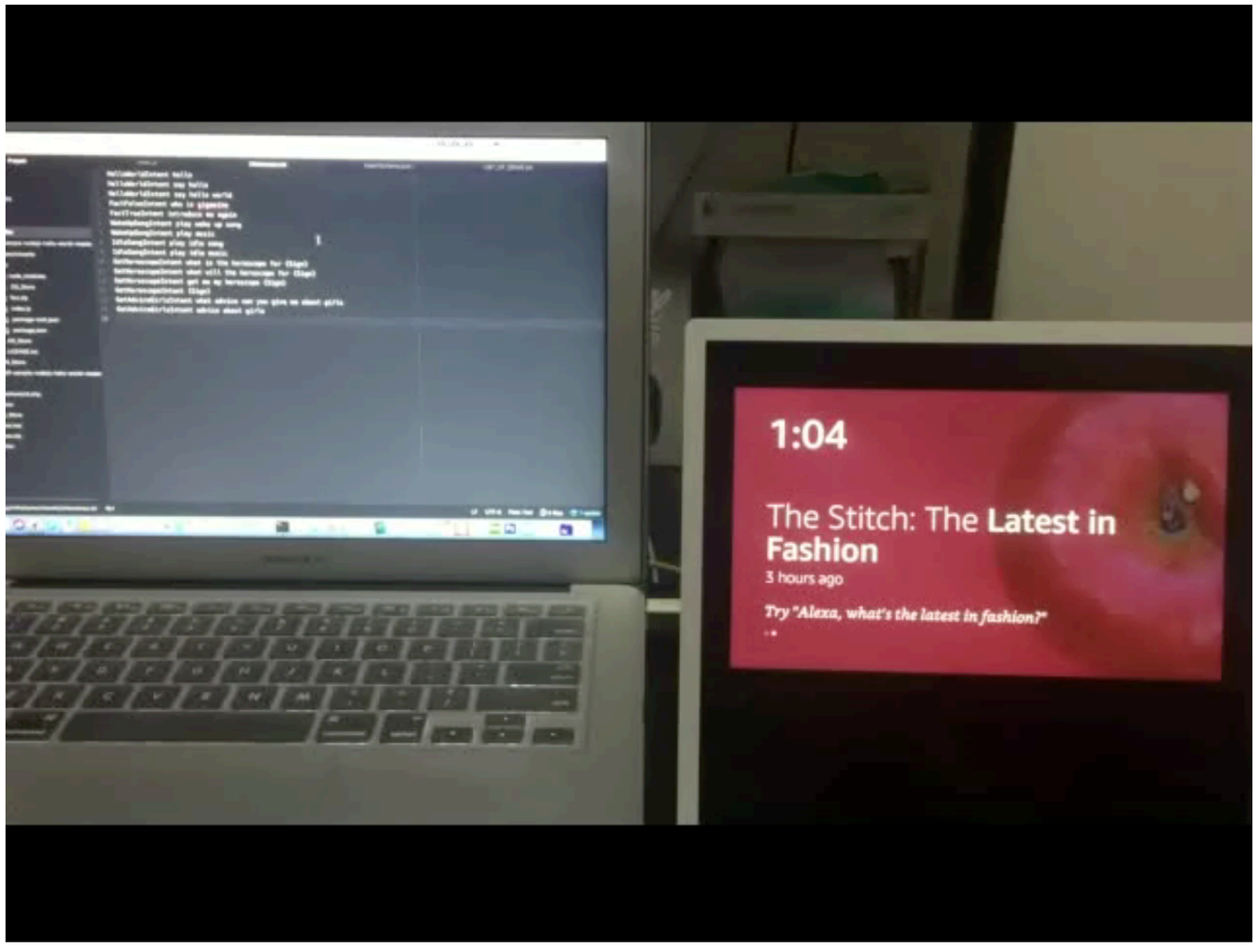
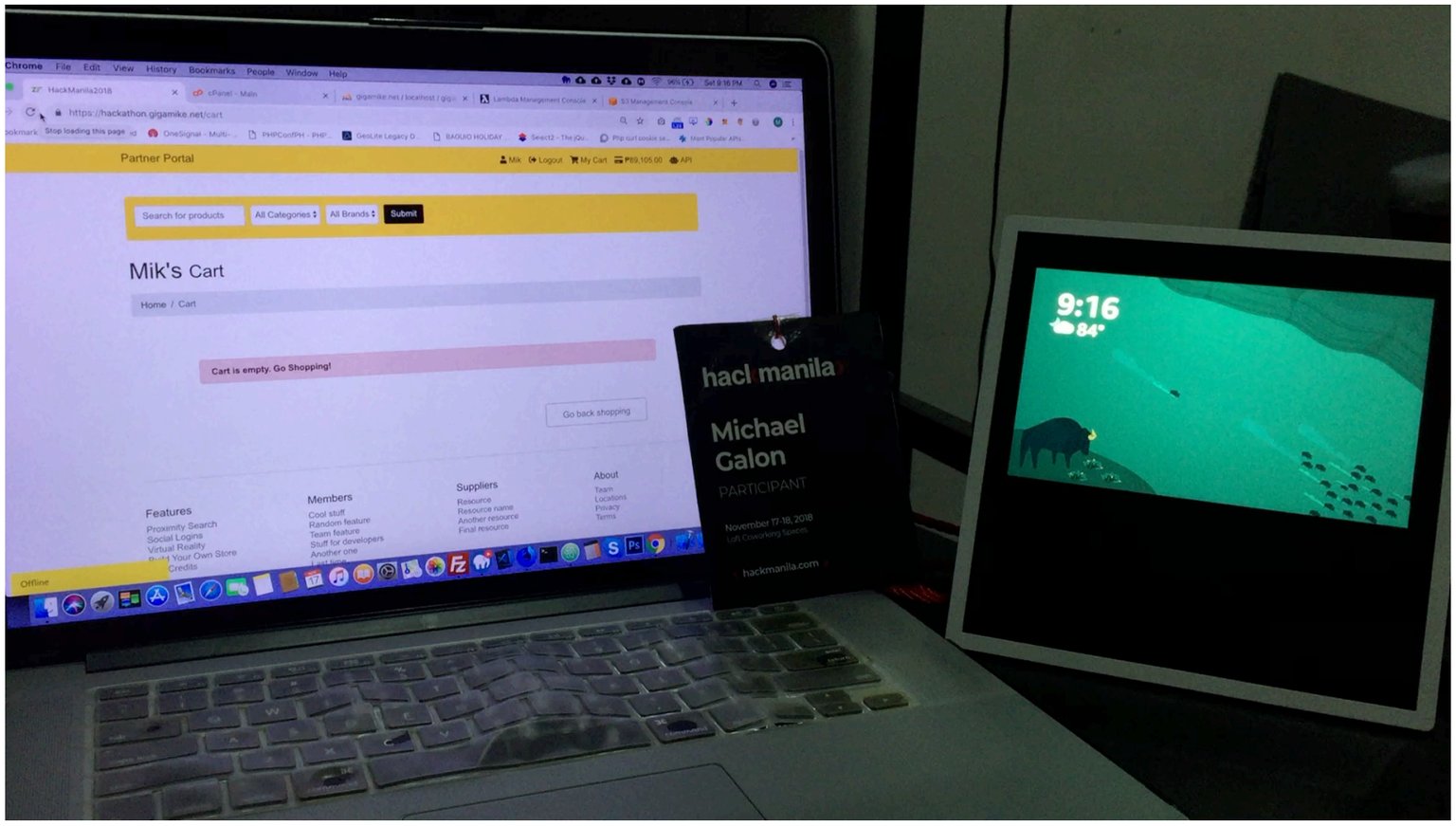
SSML


1:04
The Stitch: The Latest in Fashion
3 hours ago
Try "Alexa, what's the latest in fashion?"

Web Services/API



Questions?

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www.alexachamp.com

www.hackathon.ph

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