

# Build your First Alexa Skill

Alexa, What's the WiFi info?

WiFi Name: Betaworks1 - Guest  
WiFi Password: betaworks



# Alexa Skill Terminology

Alexa, ask “nonsmoker” “how many days it’s been since I quit”



Invocation Name



Intent

# “Hello, World” Skill



Alexa, tell <your last name> to say hello world.

# Alexa Skill Steps



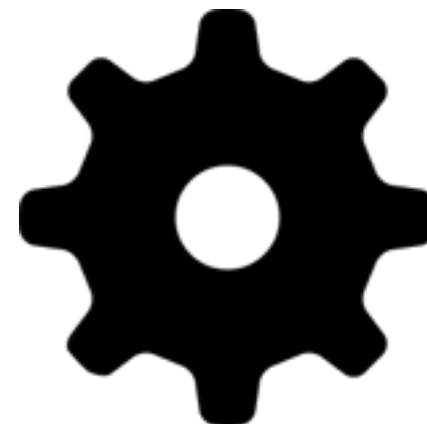
Lambda



Alexa Skills Portal

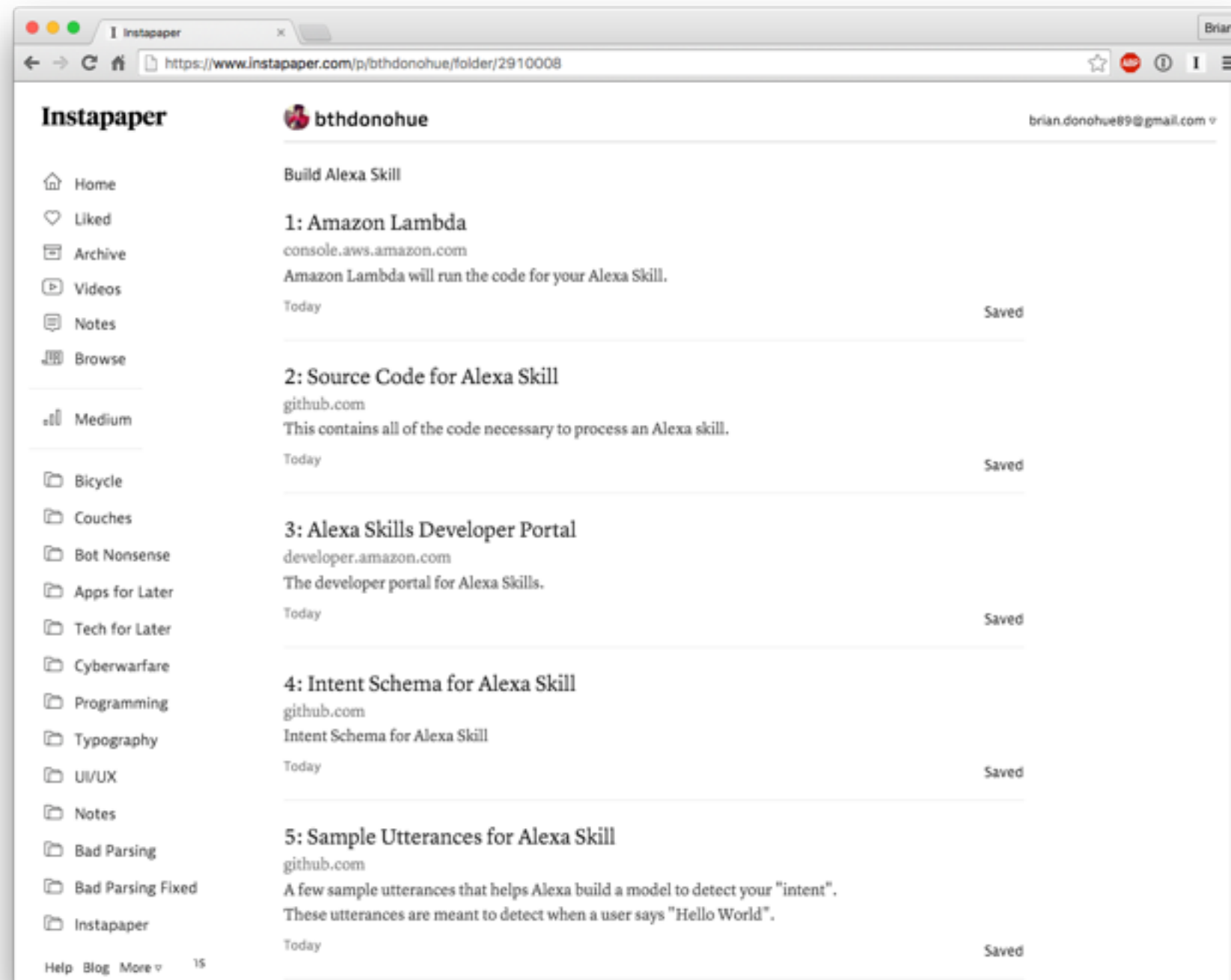


Test



Customize

# [bit.ly/alexaskill](https://bit.ly/alexaskill)



# Step 1: Lambda



Lambda

# 1a: Amazon Lambda Login

- Click Link 1
- Login or create an account with the same Amazon account that your Echo is linked to.



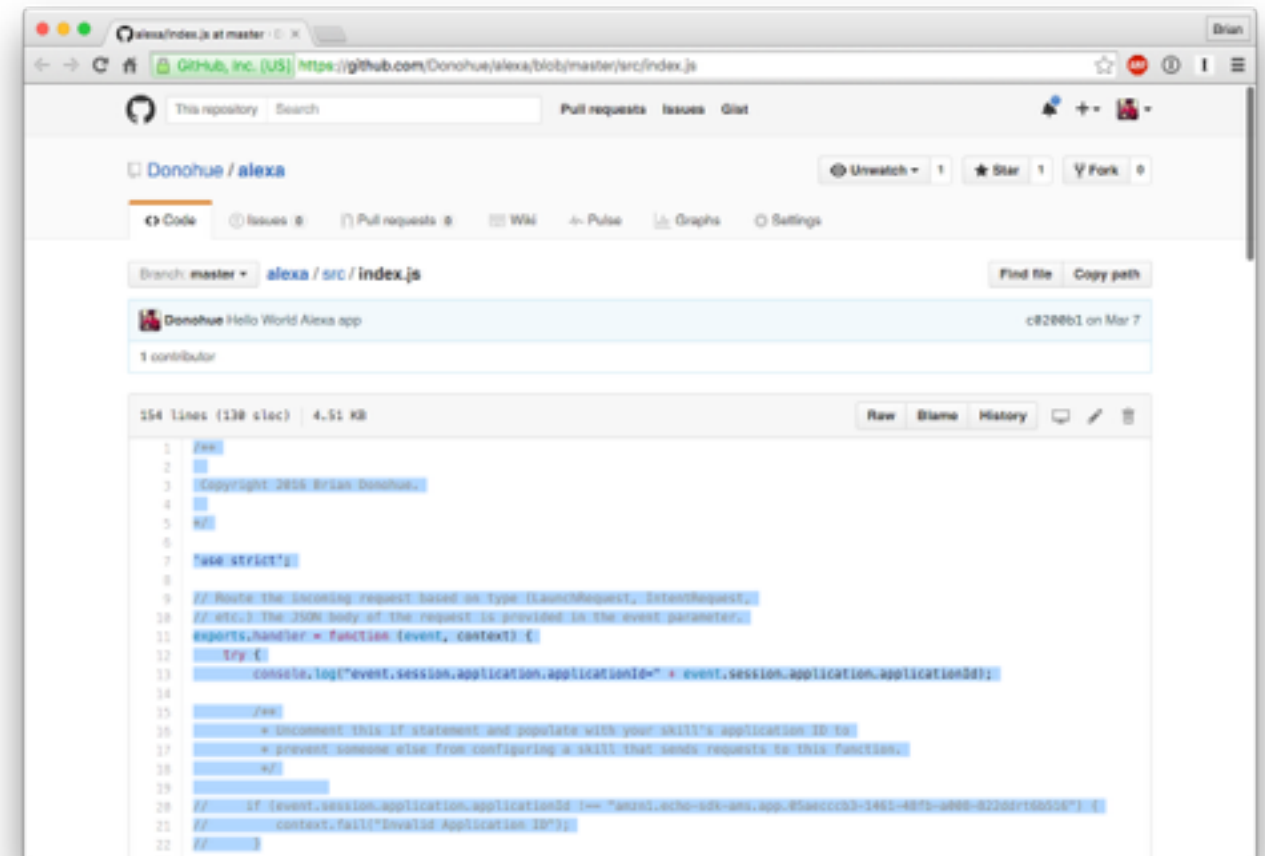
# 1b: Amazon Lambda Function

The screenshot shows the AWS Lambda Management Console interface for creating a new function. The browser address bar indicates the URL: `https://console.aws.amazon.com/lambda/home?region=us-east-1#/create?step=2`. The console header includes the AWS logo, navigation tabs for 'AWS', 'Services', and 'Edit', and a user profile 'Brian' in the top right. The main content area is titled 'Lambda > New function' and shows a three-step process: 'Step 1: Select blueprint', 'Step 2: Configure function' (which is the active step), and 'Step 3: Review'. Under 'Configure function', there is a sub-header 'Configure function' followed by a description: 'A Lambda function consists of the custom code you want to execute. [Learn more](#) about Lambda functions.' Below this, there are three form fields: 'Name\*' with the value 'myFunctionName', 'Description' (empty), and 'Runtime\*' with a dropdown menu showing 'Node.js 4.3'. Further down, the 'Lambda function code' section provides instructions: 'Provide the code for your function. Use the editor if your code does not require custom libraries (other than the aws-sdk). If you need custom libraries, you can upload your code and libraries as a .ZIP file. [Learn more](#) about deploying Lambda functions.' At the bottom of this section, there are four radio buttons for 'Code entry type': 'Edit code inline' (selected), 'Upload a .ZIP file', 'Upload a file from Amazon S3', and an unlabeled option. Below the radio buttons is a code editor with a line number '1' on the left and a large text area for code entry.

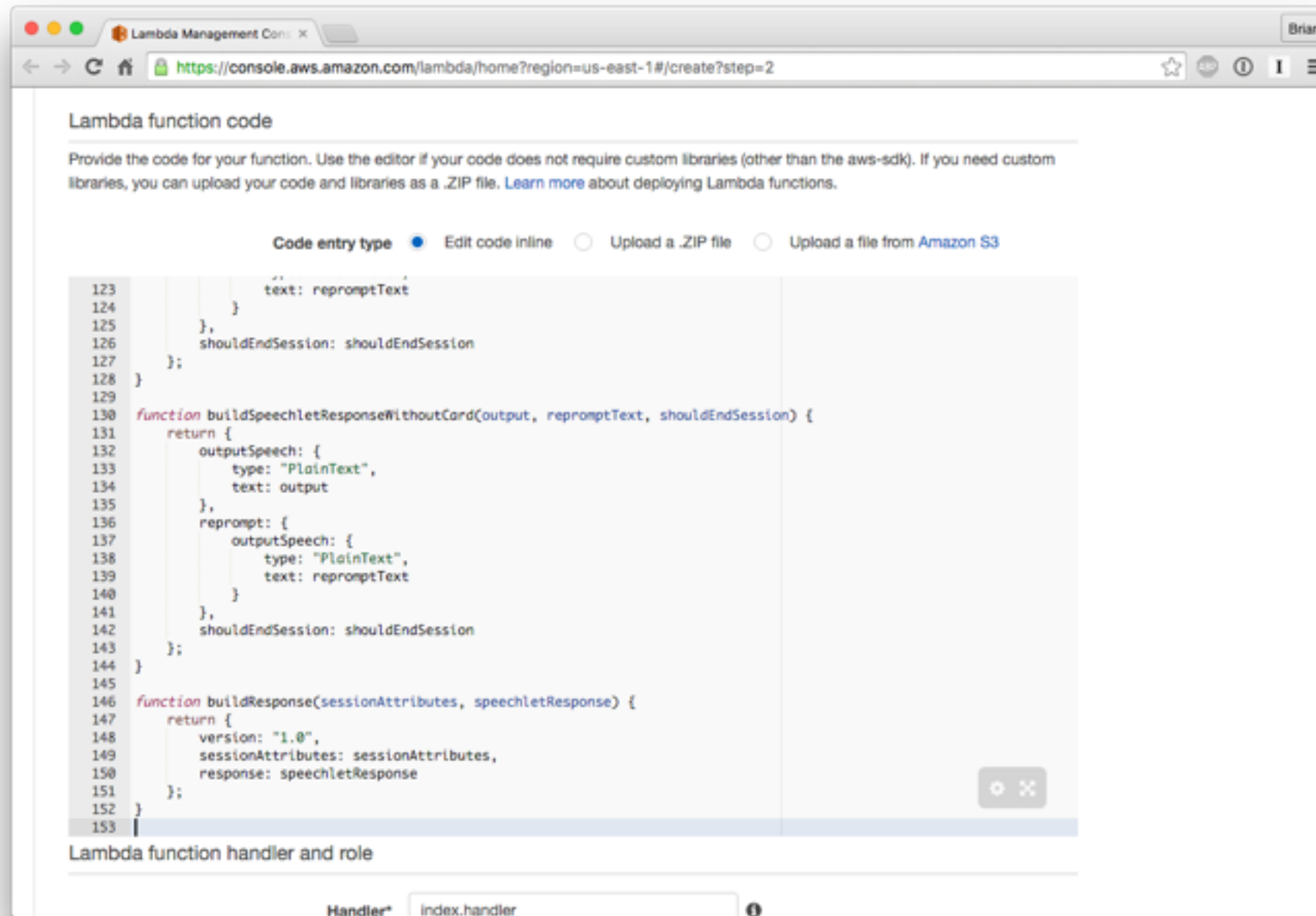


# 1c: Copy Source Code

- Click Link 2
- Copy all of the source code in the box

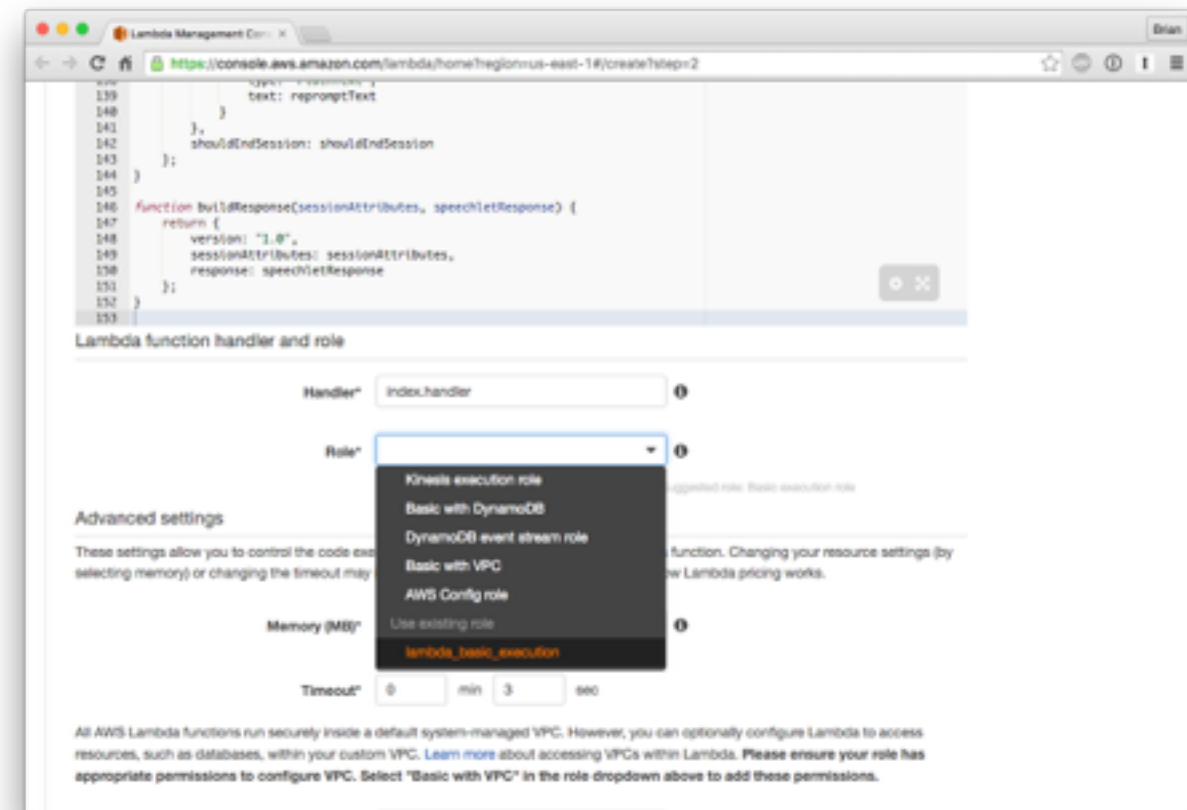


# 1d: Paste Source Code



# 1e: Set Execution Role

- Click “Role” dropdown
- Scroll dropdown menu to bottom
- Click “lambda\_basic\_execution”



# 1f: Finish Creating Function

The screenshot shows the 'Step 2: Configure function' page in the AWS Lambda console. At the top, there is a code editor with a JavaScript snippet. Below it, the 'Lambda function handler and role' section contains a 'Handler' field with 'index.handler' and a 'Role' dropdown menu with 'lambda\_basic\_execution' selected. The 'Advanced settings' section includes 'Memory (MB)' set to 128 and 'Timeout' set to 3 seconds. A 'VPC' dropdown is set to 'No VPC'. At the bottom, there are 'Cancel', 'Previous', and 'Next' buttons.

```
18 if (event.request.type === "LaunchRequest") {  
19   onLaunch(event.request,  
20     event.session,  
21     function callback(sessionAttributes, speechletResponse) {  
22       context.succeed(buildResponse(sessionAttributes, speechletResponse));  
23     }  
24   );  
25 }
```

Lambda function handler and role

Handler\* index.handler ⓘ

Role\* lambda\_basic\_execution ⓘ

Ensure that permissions are enabled to create a new role. Suggested role: Basic execution role

Advanced settings

These settings allow you to control the code execution performance and costs for your Lambda function. Changing your resource settings (by selecting memory) or changing the timeout may impact your function cost. [Learn more](#) about how Lambda pricing works.

Memory (MB)\* 128 ⓘ

Timeout\* 0 min 3 sec

All AWS Lambda functions run securely inside a default system-managed VPC. However, you can optionally configure Lambda to access resources, such as databases, within your custom VPC. [Learn more](#) about accessing VPCs within Lambda. Please ensure your role has appropriate permissions to configure VPC. Select "Basic with VPC" in the role dropdown above to add these permissions.

VPC No VPC ⓘ

\* These fields are required.

Cancel Previous Next

The screenshot shows the 'Step 3: Review' page in the AWS Lambda console. It displays a summary of the function configuration. At the top, there are links for 'Step 1: Select blueprint' and 'Step 2: Configure function'. The 'Review' section includes a message and an 'Edit' button. Below, the 'Lambda function' details are listed in a table-like format. At the bottom, there are 'Cancel', 'Previous', and 'Create function' buttons.

Step 1: Select blueprint

Step 2: Configure function

Step 3: Review

Review

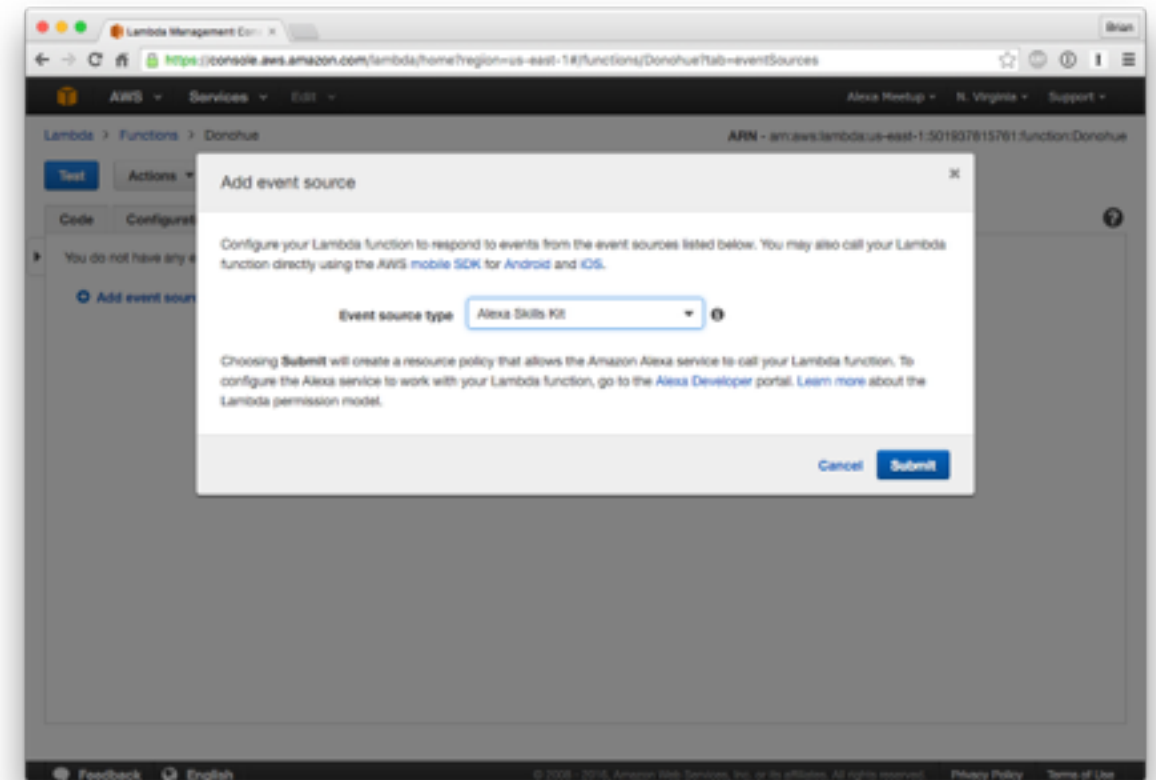
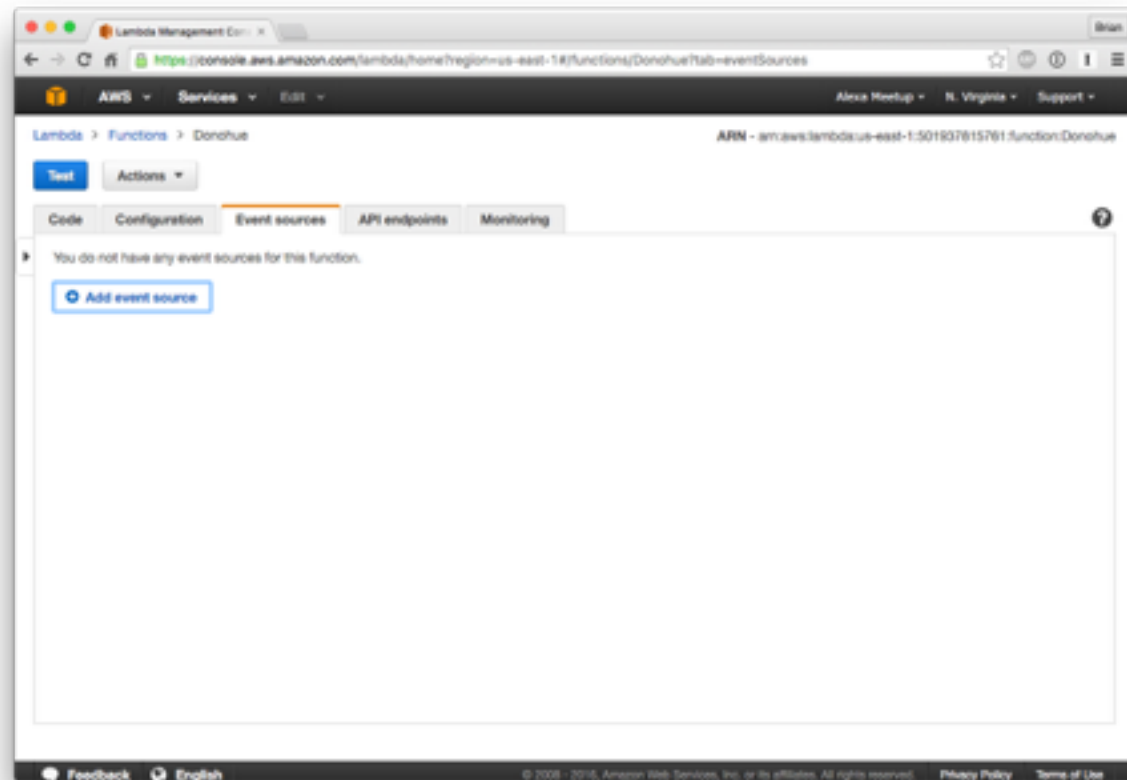
Please review your Lambda function details. You can go back to edit changes for each section. When you are ready, click **Create function** to complete the setup process.

Lambda function ⓘ

Name	Donohue
Description	
Runtime	Node.js 4.3
Handler	index.handler
Role	lambda_basic_execution
Memory (MB)	128
Timeout	3

Cancel Previous Create function

# 1g: Set Event Source





# Step 1 Done



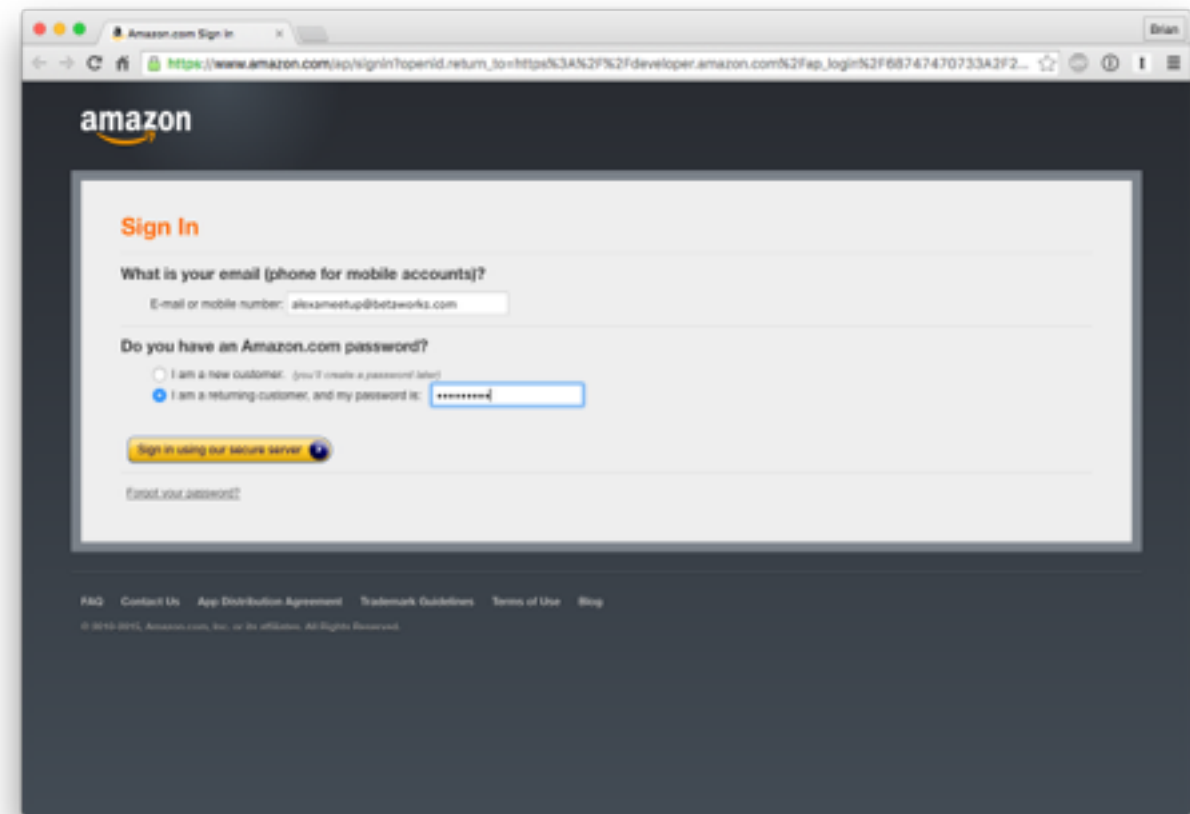
# Step 2: Amazon Skills Portal



Alexa Skills Portal

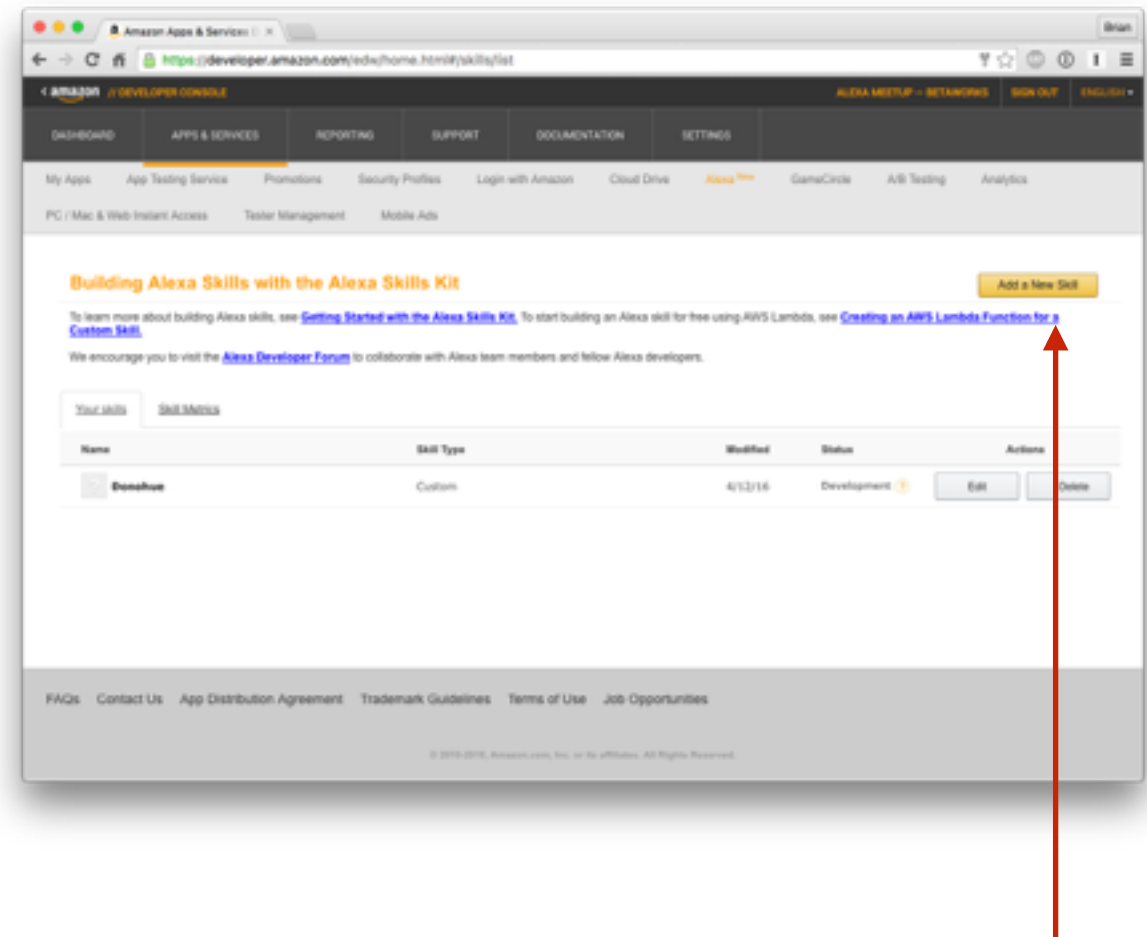
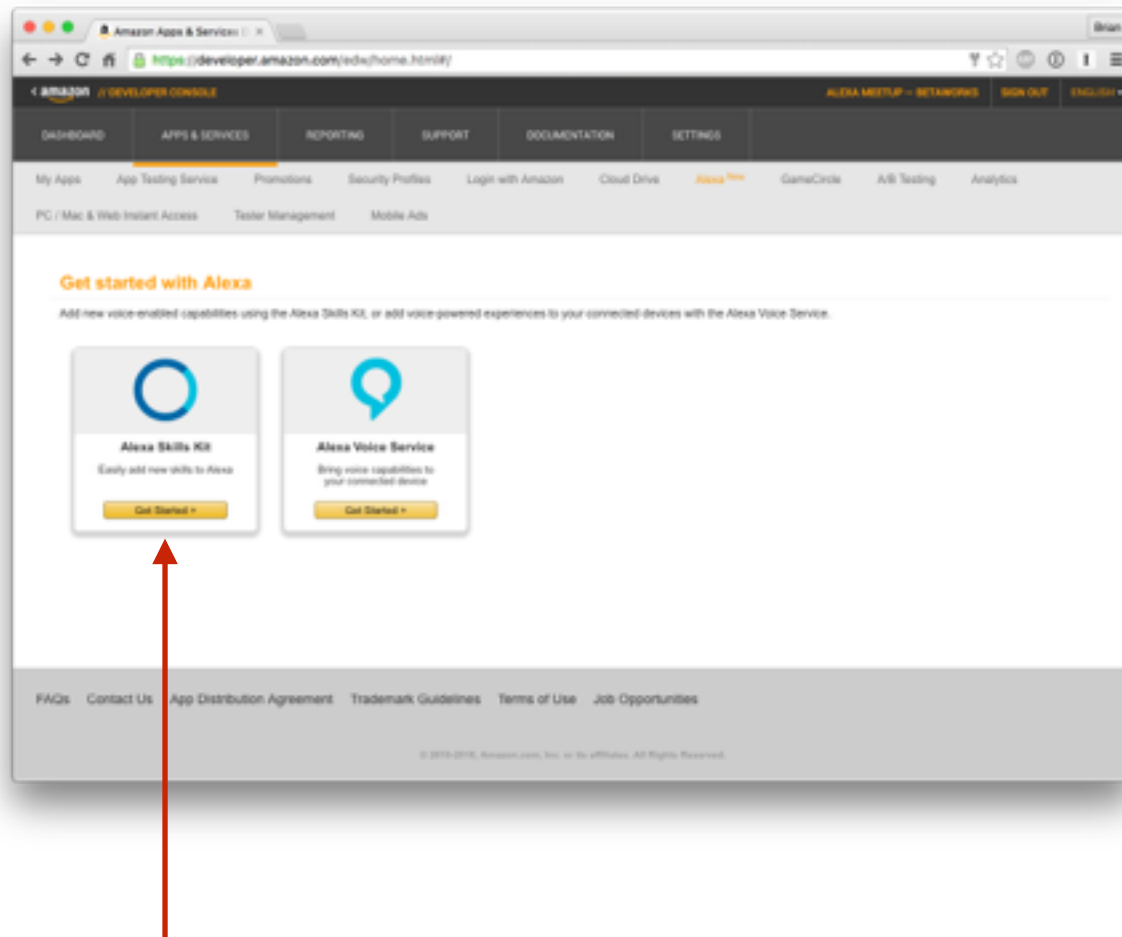
## 2a: Amazon Developer Login

- Click Link 3
- Login or create an account with the same Amazon account that your Echo is linked to.





## 2b: Navigate to Add New Skill



# 2c: Name and Invocation Name

The screenshot shows the Amazon Developer Console interface for creating a new Alexa skill. The browser address bar displays `https://developer.amazon.com/edw/home.html#/skill/create/`. The top navigation bar includes links for DASHBOARD, APPS & SERVICES, REPORTING, SUPPORT, DOCUMENTATION, and SETTINGS. Below this, a secondary navigation bar lists various services like My Apps, App Testing Service, Promotions, Security Profiles, Login with Amazon, Cloud Drive, Alexa, GameCircle, A/B Testing, and Analytics. The main content area is titled 'Create a New Alexa Skill' with a 'DEVELOPMENT' status. A sidebar on the left lists steps: Skill Information (checked), Interaction Model (checked), Configuration (checked), Test (checked), Publishing Information (checked), and Privacy & Compliance (checked). The main form area is titled 'Skill Information' and includes a 'Skill Type' section with two options: 'Custom Interaction Model' (selected) and 'Smart Home Skill API'. Below this, there are two text input fields: 'Name' (containing 'Donohue') and 'Invocation Name' (containing 'donohue'). Both fields have descriptive text and links to learn more. At the bottom of the form, there are 'Save' and 'Next' buttons. The footer of the page contains links for FAQs, Contact Us, App Distribution Agreement, Trademark Guidelines, Terms of Use, and Job Opportunities, along with a copyright notice for 2015-2016.

Amazon Apps & Services | Brian

https://developer.amazon.com/edw/home.html#/skill/create/

< amazon // DEVELOPER CONSOLE ALEXA MEETUP — BETAWORKS SIGN OUT ENGLISH

DASHBOARD APPS & SERVICES REPORTING SUPPORT DOCUMENTATION SETTINGS

My Apps App Testing Service Promotions Security Profiles Login with Amazon Cloud Drive Alexa GameCircle A/B Testing Analytics

PC / Mac & Web Instant Access Tester Management Mobile Ads

[< Back to the list of skills](#)

**Create a New Alexa Skill** [Getting started](#)

DEVELOPMENT

\*Fields required for certification

**Skill Information** ✓

Interaction Model ✓

Configuration ✓

Test ✓

Publishing Information ✓

Privacy & Compliance ✓

**Skill Type \***

You can choose a Skill API or define the interaction model. [Learn more](#)

☒ Custom Interaction Model

☐ Smart Home Skill API

**Name \***

The name of this skill. This is the name displayed in the Alexa App.

Donohue

**Invocation Name \***

The name users will say to interact with this skill. This does not have to be the same as the skill name. The invocation name must comply with the [Invocation Name Guidelines](#).

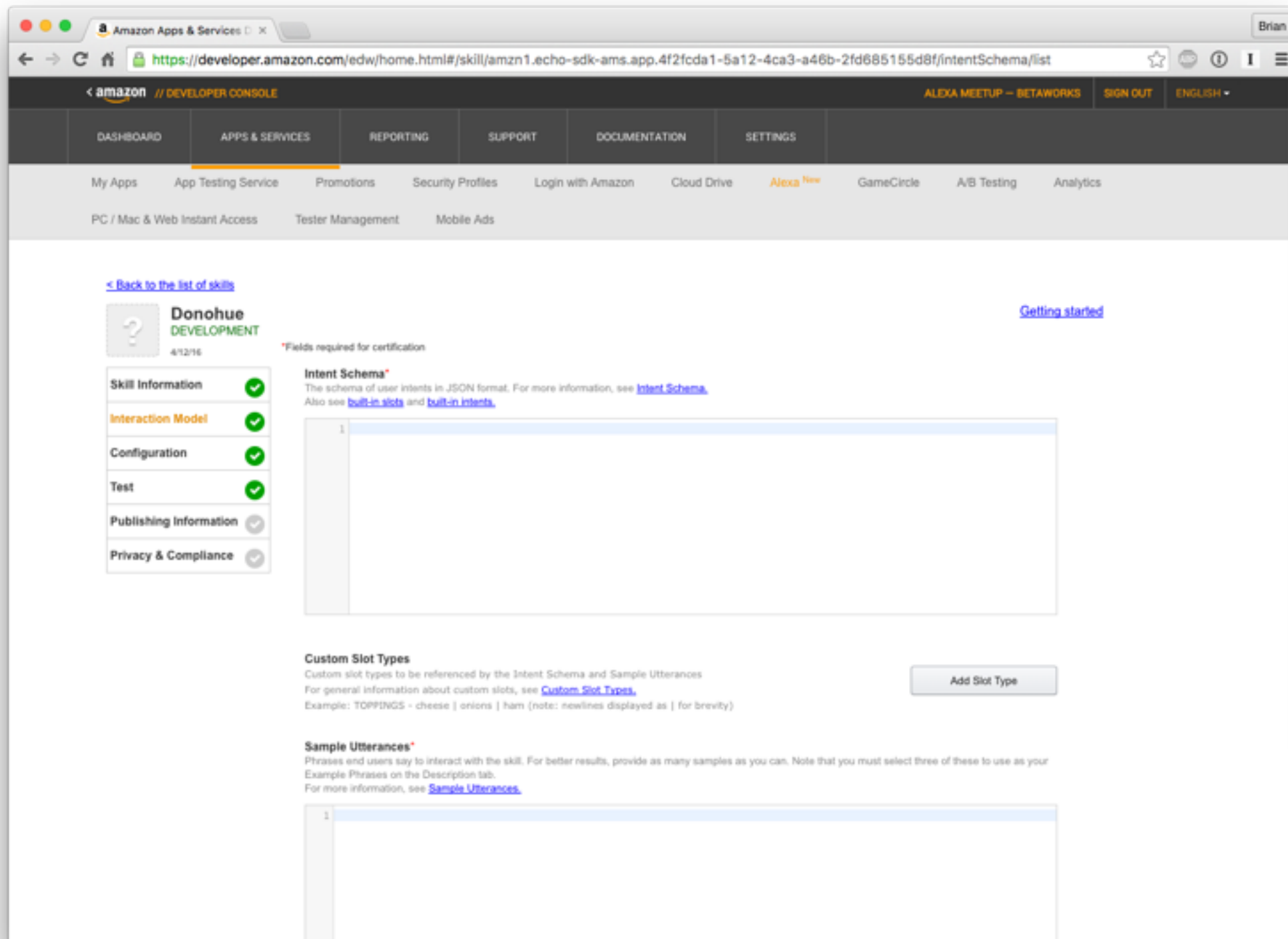
donohue

Save Next

FAQs Contact Us App Distribution Agreement Trademark Guidelines Terms of Use Job Opportunities

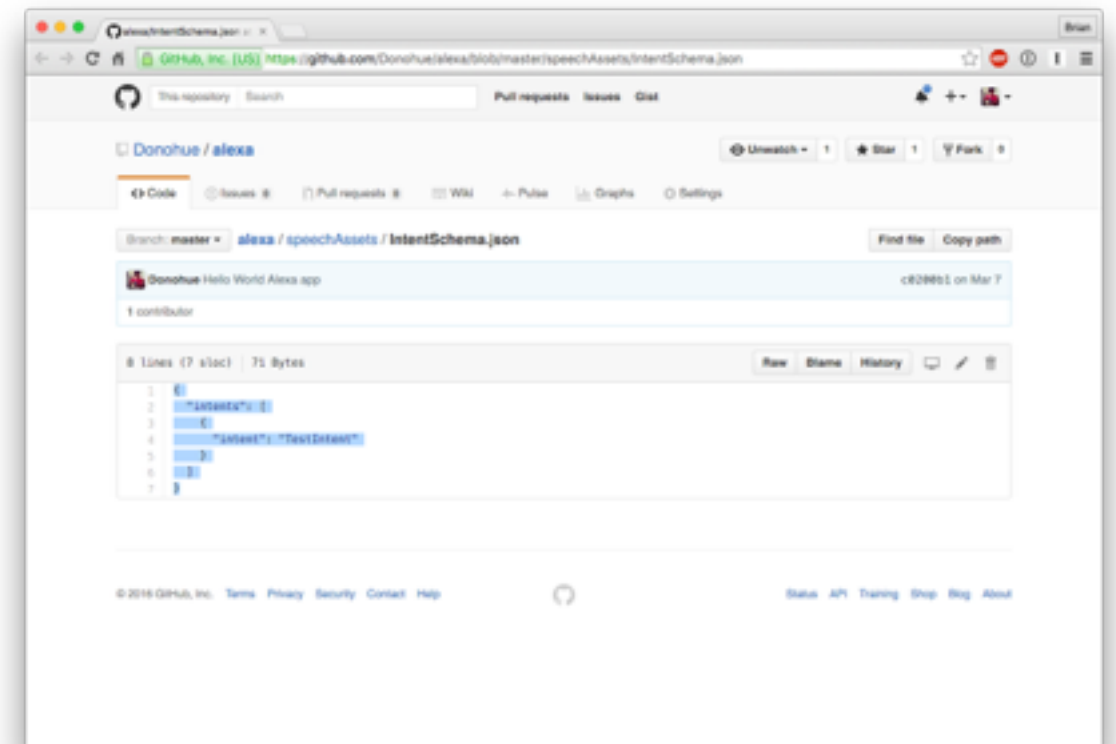
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# 2d: Interaction Model

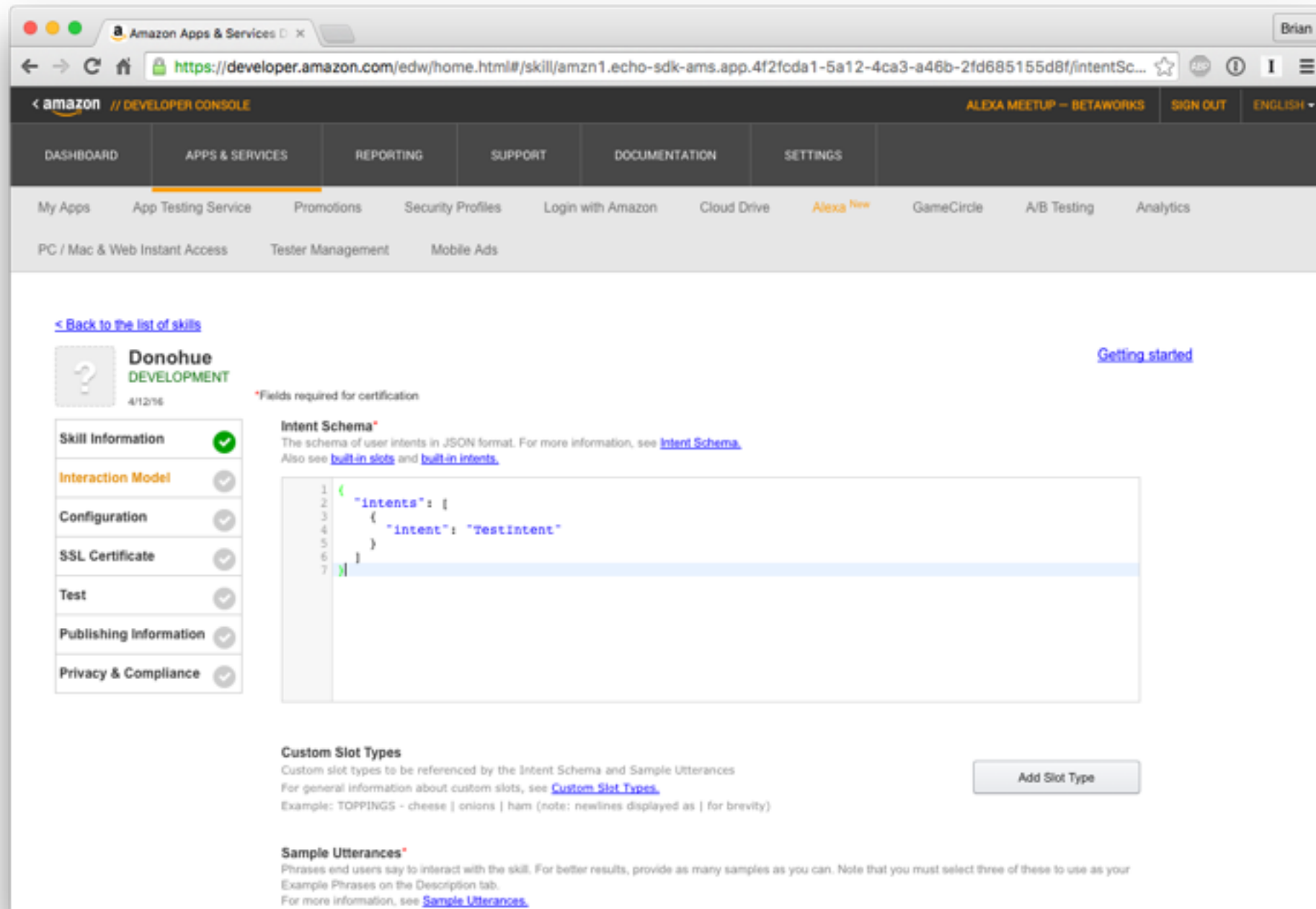


## 2e: Copy Intent Schema

- Click Link 4
- Copy all of the text in the box



# 2f: Paste Intent Schema



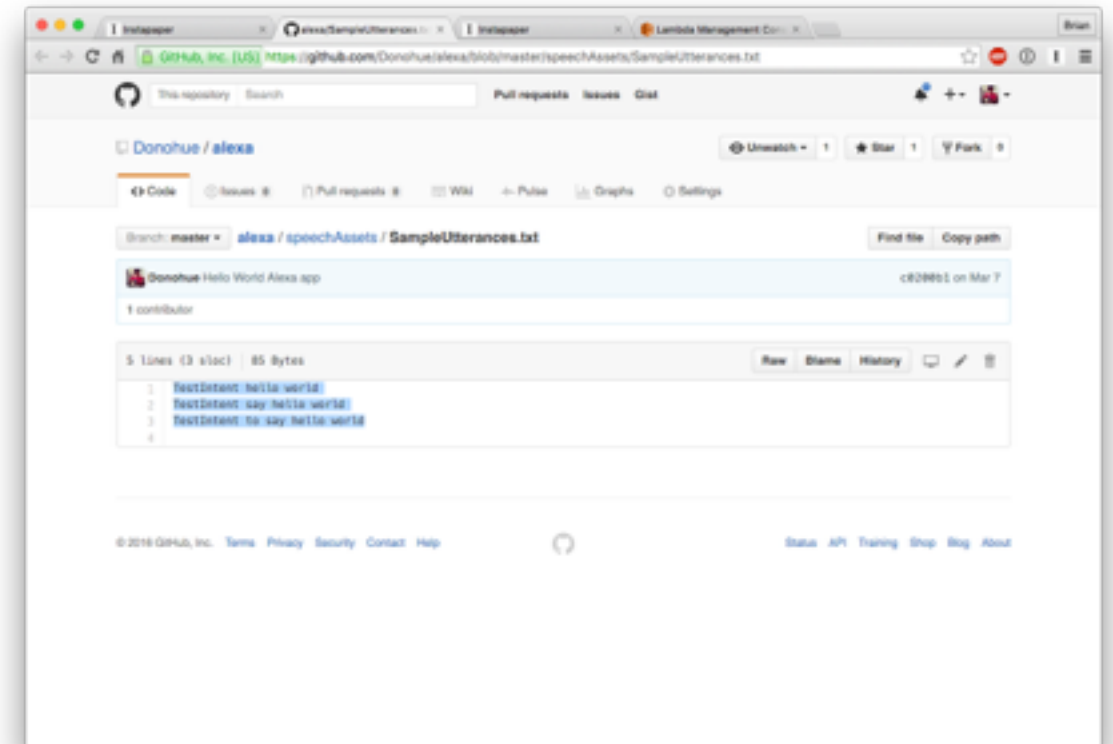
The screenshot shows the Amazon Developer Console interface for configuring an Alexa skill. The top navigation bar includes links for Dashboard, Apps & Services, Reporting, Support, Documentation, and Settings. The main content area is titled 'Donohue DEVELOPMENT' and shows a list of configuration tabs on the left: Skill Information (checked), Interaction Model, Configuration, SSL Certificate, Test, Publishing Information, and Privacy & Compliance. The 'Interaction Model' tab is selected, displaying the 'Intent Schema' configuration. The 'Intent Schema' section includes a description and a JSON editor containing the following schema:

```
1 {  
2   "intents": [  
3     {  
4       "intent": "Testintent"  
5     }  
6   ]  
7 }
```

Below the JSON editor, there are sections for 'Custom Slot Types' and 'Sample Utterances'. The 'Custom Slot Types' section includes a description and an example: 'Example: TOPPINGS - cheese | onions | ham (note: newlines displayed as | for brevity)'. The 'Sample Utterances' section includes a description and an example: 'Example Phrases on the Description tab. For more information, see Sample Utterances.'.

## 2g: Copy Sample Utterances

- Click Link 5
- Copy all of the text in the box



# 2h: Paste Sample Utterances

The screenshot shows the Amazon Developer console interface for configuring an Alexa skill. The browser address bar displays the URL: `https://developer.amazon.com/edw/home.html#/skill/amzn1.echo-sdk-ams.app.4f2fcd1-5a12-4ca3-a46b-2fd685155d8f/intentSc...`. On the left, a sidebar contains navigation links: 'SSL Certificate', 'Test', 'Publishing Information', and 'Privacy & Compliance', each with a checkmark icon. The main content area is divided into two sections. The top section, 'Custom Slot Types', includes a text area with a JSON snippet: 

```
{
  "name": "Toppings",
  "slots": [
    "cheese",
    "onions",
    "ham"
  ]
}
```

 and an 'Add Slot Type' button. The bottom section, 'Sample Utterances', contains a text area with three sample utterances: 

```
1 TestIntent hello world
2 TestIntent say hello world
3 TestIntent to say hello world
```

 Below the text areas are three buttons: 'Save', 'Submit for Certification', and 'Next'. The footer of the page includes links for 'FAQs', 'Contact Us', 'App Distribution Agreement', 'Trademark Guidelines', 'Terms of Use', and 'Job Opportunities', along with a copyright notice: '© 2010-2016, Amazon.com, Inc. or its affiliates. All Rights Reserved.'

Amazon Apps & Services

https://developer.amazon.com/edw/home.html#/skill/amzn1.echo-sdk-ams.app.4f2fcd1-5a12-4ca3-a46b-2fd685155d8f/intentSc...

SSL Certificate ✓

Test ✓

Publishing Information ✓

Privacy & Compliance ✓

Custom Slot Types

Custom slot types to be referenced by the Intent Schema and Sample Utterances

For general information about custom slots, see [Custom Slot Types](#).

Example: TOPPINGS - cheese | onions | ham (note: newlines displayed as | for brevity)

Add Slot Type

Sample Utterances\*

Phrases end users say to interact with the skill. For better results, provide as many samples as you can. Note that you must select three of these to use as your Example Phrases on the Description tab.

For more information, see [Sample Utterances](#).

```
1 TestIntent hello world
2 TestIntent say hello world
3 TestIntent to say hello world
```

Save Submit for Certification Next

FAQs Contact Us App Distribution Agreement Trademark Guidelines Terms of Use Job Opportunities

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# 2i: Configuration

The screenshot shows the Amazon Developer Console configuration page for an Alexa skill named "Donohue DEVELOPMENT". The page is titled "Configuration" and is part of the "DEVELOPER CONSOLE". The URL in the browser is <https://developer.amazon.com/edw/home.html#/skill/amzn1.echo-sdk-ams.app.4f2fcd1-5a12-4ca3-a46b-2fd685155d8f/configuration>. The page has a navigation bar with links to Dashboard, Apps & Services, Reporting, Support, Documentation, and Settings. Below the navigation bar, there are links to My Apps, App Testing Service, Promotions, Security Profiles, Login with Amazon, Cloud Drive, Alexa New, GameCircle, A/B Testing, and Analytics. The main content area is divided into two sections: "Skill Information" and "Account Linking". The "Skill Information" section includes a sidebar with links to Skill Information, Interaction Model, Configuration, Test, Publishing Information, and Privacy & Compliance. The "Account Linking" section includes a form for "Endpoint" (Lambda ARN) and a "Do you allow users to create an account or link to an existing account with you?" question. The "Endpoint" section has a radio button for "HTTPS" and a text input field for "Lambda ARN (Amazon Resource Name)". The "Account Linking" section has radio buttons for "Yes" and "No". The "Do you allow users to create an account or link to an existing account with you?" question has a "Learn more" link. The "Configuration" section has a "Save" button, a "Submit for Certification" button, and a "Next" button. The footer contains links to FAQs, Contact Us, App Distribution Agreement, Trademark Guidelines, Terms of Use, and Job Opportunities. The copyright notice is "© 2010-2016, Amazon.com, Inc. or its affiliates. All Rights Reserved."

Amazon Apps & Services

https://developer.amazon.com/edw/home.html#/skill/amzn1.echo-sdk-ams.app.4f2fcd1-5a12-4ca3-a46b-2fd685155d8f/configuration

DEVELOPER CONSOLE

ALEXA MEETUP -- BETAWORKS SIGN OUT ENGLISH

DASHBOARD APPS & SERVICES REPORTING SUPPORT DOCUMENTATION SETTINGS

My Apps App Testing Service Promotions Security Profiles Login with Amazon Cloud Drive Alexa New GameCircle A/B Testing Analytics

PC / Mac & Web Instant Access Tester Management Mobile Ads

[Back to the list of skills](#)

Donohue DEVELOPMENT 4/12/16

\*Fields required for certification

Skill Information ✓

Interaction Model ✓

Configuration ✓

Test ✓

Publishing Information ✓

Privacy & Compliance ✓

Endpoint \*

Lambda ARN url for Smart Home Adapter. [More info about AWS Lambda](#) [How to integrate AWS Lambda with Alexa](#)

☐ HTTPS ☒ Lambda ARN (Amazon Resource Name) ?

Account Linking

Do you allow users to create an account or link to an existing account with you? [Learn more](#) ☐ Yes ☒ No

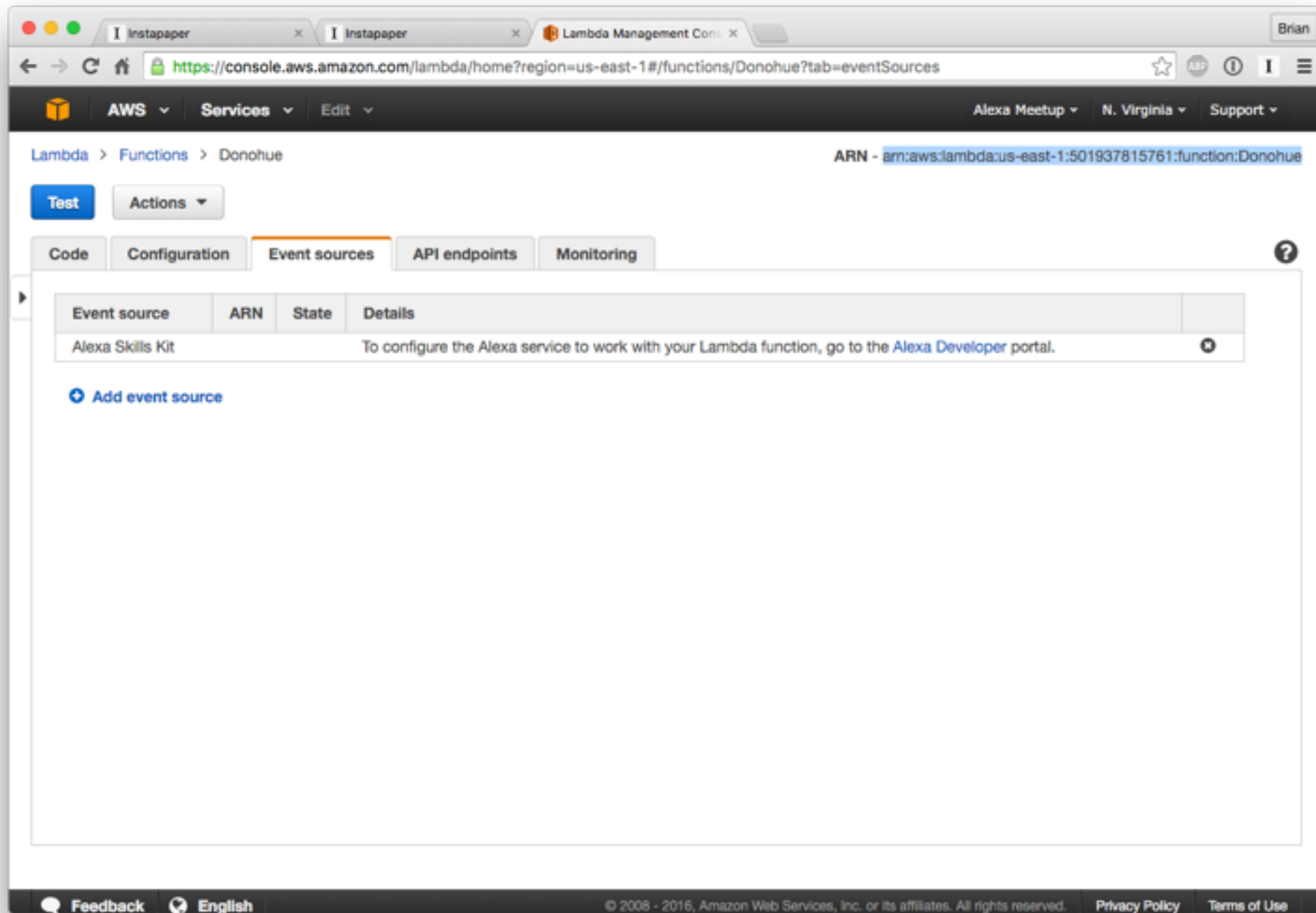
Save Submit for Certification Next

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## 2j: Copy ARN



# 2k: Paste ARN

The screenshot shows the Amazon Developer Console interface for configuring an Alexa skill. The browser address bar displays the URL: `https://developer.amazon.com/edw/home.html#/skill/amzn1.echo-sdk-ams.app.4f2fcda1-5a12-4ca3-a46b-2fd685155d8f/configur...`. The page title is "amazon // DEVELOPER CONSOLE". The navigation bar includes links for DASHBOARD, APPS & SERVICES (highlighted), REPORTING, SUPPORT, DOCUMENTATION, and SETTINGS. Below the navigation bar, there are links for My Apps, App Testing Service, Promotions, Security Profiles, Login with Amazon, Cloud Drive, Alexa New, GameCircle, A/B Testing, and Analytics. The main content area shows the configuration for a skill named "Donohue" (DEVELOPMENT). On the left, a sidebar lists configuration sections: Skill Information (checked), Interaction Model (checked), Configuration (checked), Test (checked), Publishing Information (checked), and Privacy & Compliance (checked). The main configuration area includes a "Back to the list of skills" link, a "Getting started" link, and a "Fields required for certification" note. The "Endpoint" section shows the "Lambda ARN (Amazon Resource Name)" selected, with the value `arn:aws:lambda:us-east-1:501937815761:function:Donohue` entered in the text field. The "Account Linking" section asks "Do you allow users to create an account or link to an existing account with you?" with "Yes" and "No" radio buttons, where "No" is selected. At the bottom, there are "Save", "Submit for Certification", and "Next" buttons. The footer contains links for FAQs, Contact Us, App Distribution Agreement, Trademark Guidelines, Terms of Use, and Job Opportunities, along with a copyright notice: "© 2010-2016, Amazon.com, Inc. or its affiliates. All Rights Reserved."

# Step 2 Done



# Step 3: Amazon Skills Test



Test

# 3a: Service Simulator

Input

The screenshot shows the Amazon Developer console interface for testing an Alexa skill. On the left, a sidebar lists navigation options: Skill Information, Interaction Model, Configuration, Test (highlighted), Publishing Information, and Privacy & Compliance. The main content area is titled 'Start testing this skill' and includes an 'Enable' button and instructions on how to test the skill. Below this, the 'Voice Simulator' section allows users to hear how Alexa will speak a response entered in plain text or SSML. The 'Service Simulator' section is used to test the lambda function. It features a 'Text' tab and a 'Json' tab. The 'Enter Utterance' field contains the text 'say hello world'. Below this are 'Ask Donohue' and 'Reset' buttons. The 'Lambda Request' section displays a JSON object representing the request, and the 'Lambda Response' section displays a JSON object representing the response. The response includes an 'outputSpeech' object with a 'text' property set to 'Hello, World!'. A 'Listen' button is located at the bottom right of the response section.

Amazon App & Services | X

https://developer.amazon.com/edw/home.html#/skill/amzn1.echo-sdk-ams.app.4f2fcd81-5a12-4ca3-a46b-2fd585155d8f/testing

Donohue  
DEVELOPMENT  
4/12/16

Getting started

Start testing this skill

Enable This skill is enabled for testing on your account.

Once you have completed testing on your device, please complete the Description and Publishing Information tab, then submit the skill for certification.

If it passes Amazon's testing and certification process, it will become available to Alexa end users.

Try this on your Echo: Alexa ask donohue

Voice Simulator

Hear how Alexa will speak a response entered in plain text or SSML. [Learn more about supported SSML tags.](#)

For example: Here is a word spelled out: <say-as interpret-as="spell-out">hello</say-as>.

Here is a word spelled out: <say-as interpret-as="spell-out">hello</say-as> Listen

Service Simulator

Use Service Simulator to test your lambda function.

Text Json

Enter Utterance \*

say hello world

Ask Donohue Reset

Lambda Request

```
1 {
2   "session": {
3     "sessionId": "SessionId.248a6a2-9143-498d-b7",
4     "applicationId": "amzn1.echo-sdk-ams.app.4f2fcd81-5a12-4ca3-a46b-2fd585155d8f",
5     "user": {
6       "userId": "amzn1.ask.account.AF938W0G28GJ9",
7       "new": true
8     }
9   },
10  "request": {
11    "type": "IntentRequest",
12    "requestId": "EdvRequestId.100a816d-07c8-49ec",
13    "timestamp": "2016-04-12T20:09:39Z",
14    "intent": {
15      "name": "TestIntent",
16      "slots": {}
17    },
18    "locale": "en-US"
19  },
20  "version": "1.0"
21 }
```

Lambda Response

```
1 {
2   "version": "1.0",
3   "response": {
4     "outputSpeech": {
5       "type": "PlainText",
6       "text": "Hello, World!"
7     },
8     "reprompt": {
9       "outputSpeech": {
10        "type": "PlainText",
11        "text": ""
12      }
13    },
14    "shouldEndSession": true
15  }
16 }
```

Listen

Submit for Certification Next

Output

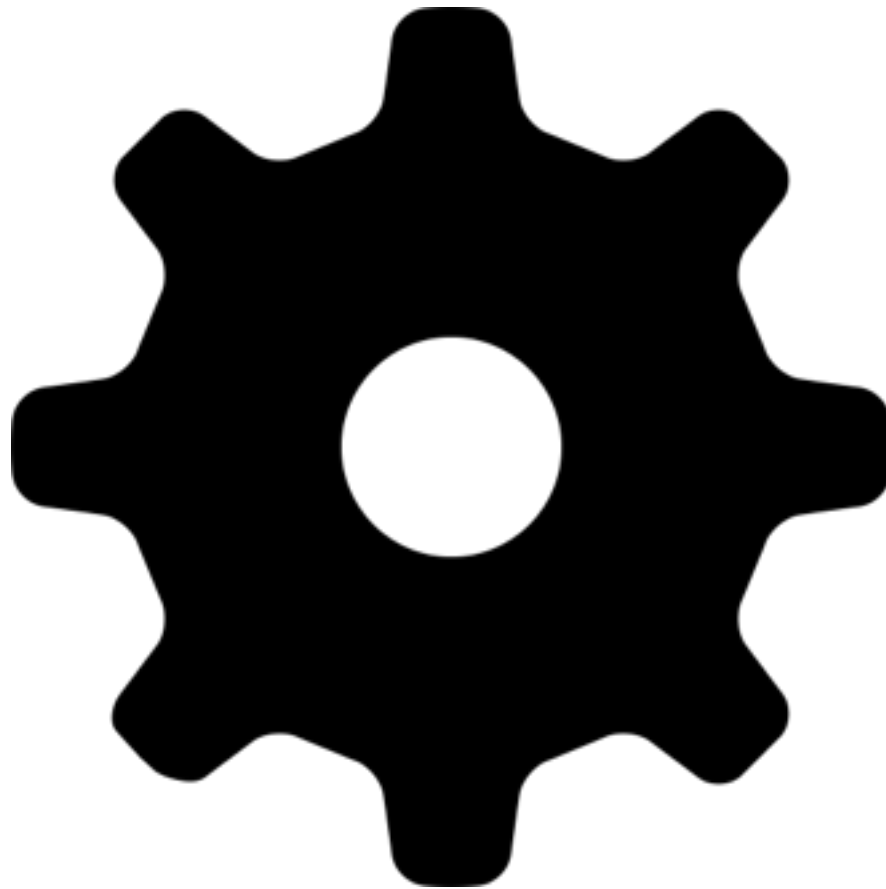


## 3b: Test on Device



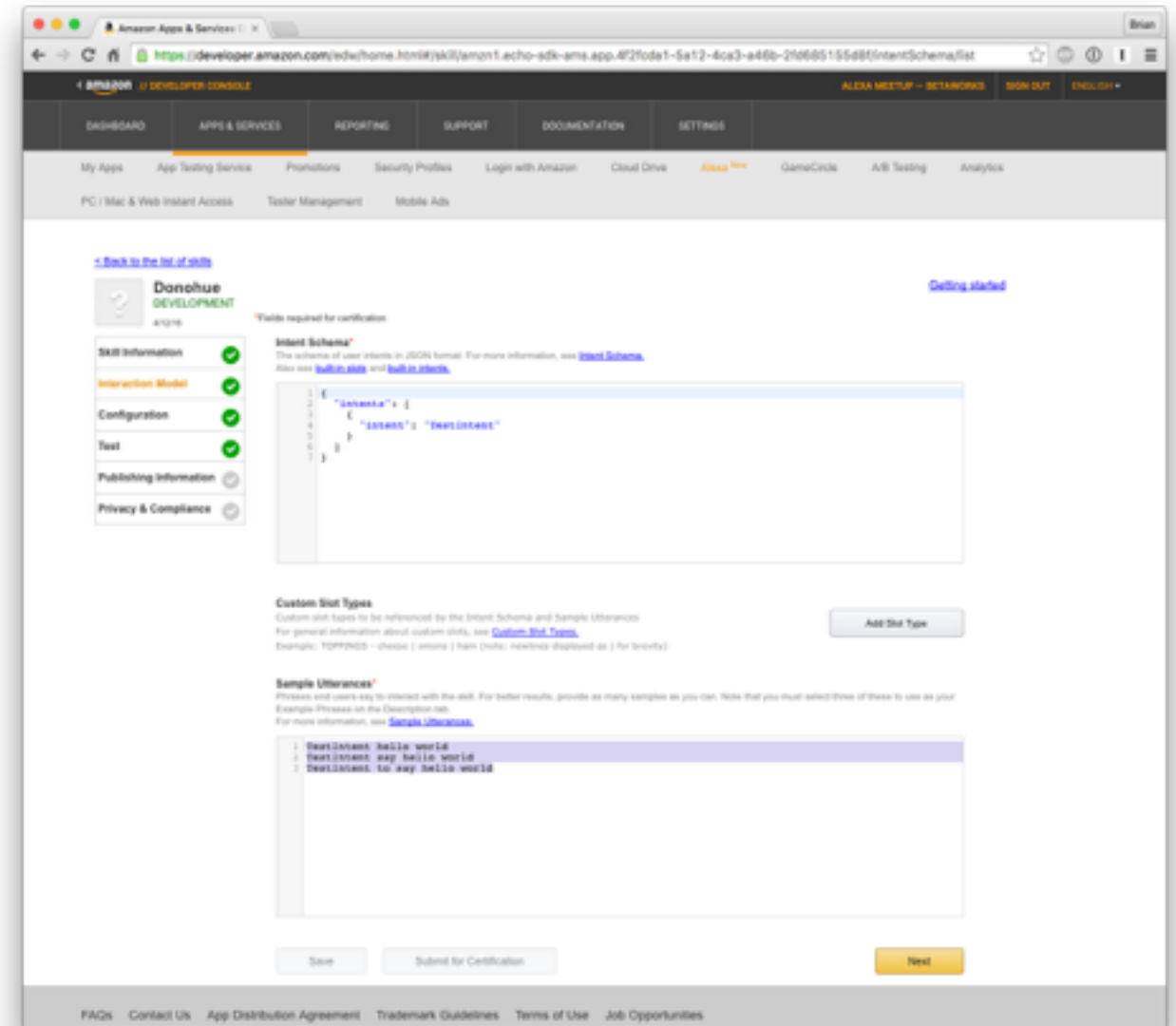
Alexa, tell <your last name> to say hello world.

## Step 4: Customize



# 4a: Change “Sample Utterances”

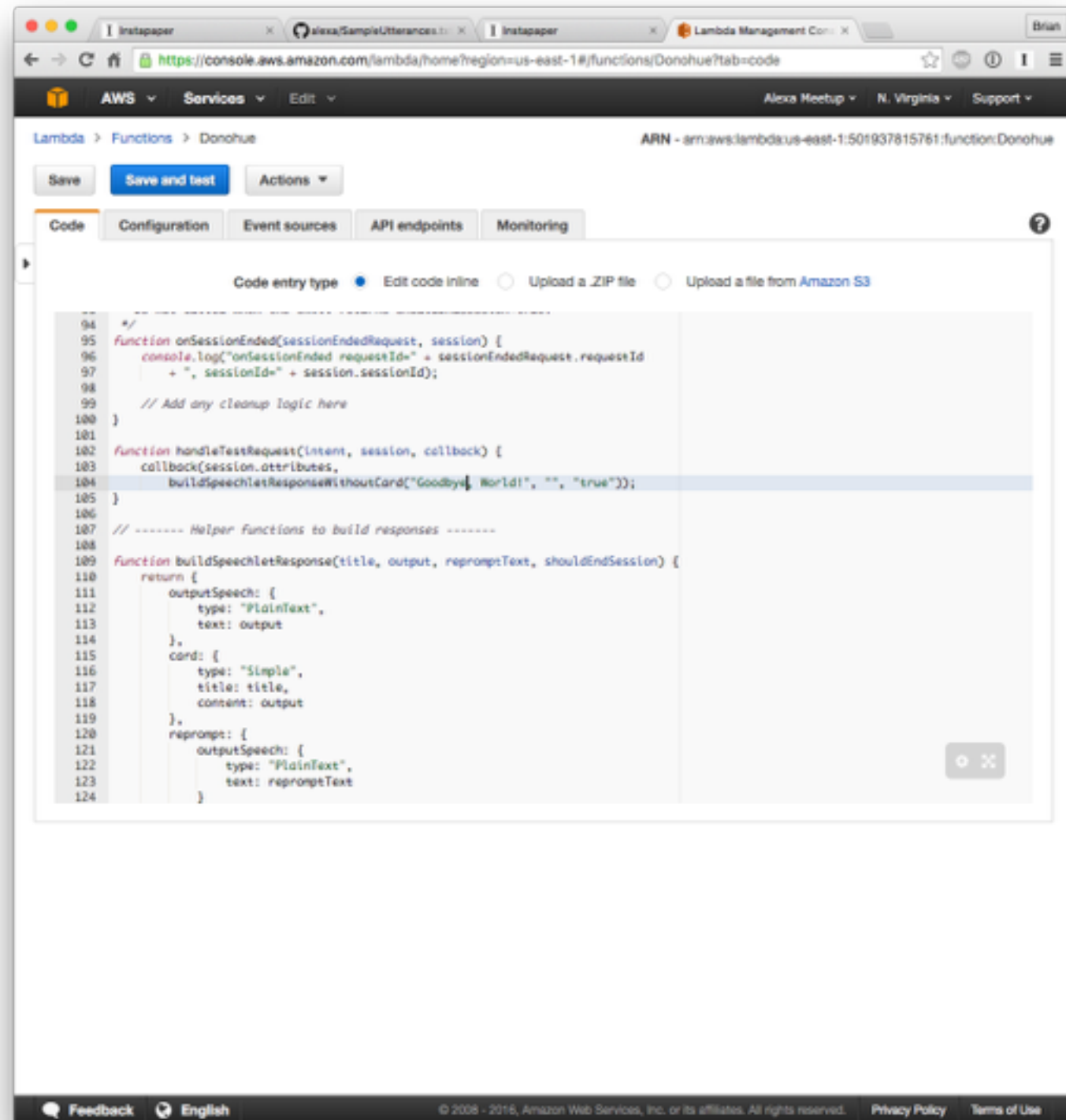
- Go to “Interaction Model” in dev portal.
- In Sample Utterances, edit the words to the right of “TestIntent” with what you want to say (input).





## 4b: Change Lambda Output

- Go to “Code” tab in Lambda
- Scroll to line 104 and replace Hello, World with your output.
- Keep the quotes around your output
- Click “Save”.
- Test in Amazon Developer Portal.



# Fin

