

# Lab 1: Building an Alexa Skill using Alicebot

EE596/LING580 Conversational Artificial Intelligence

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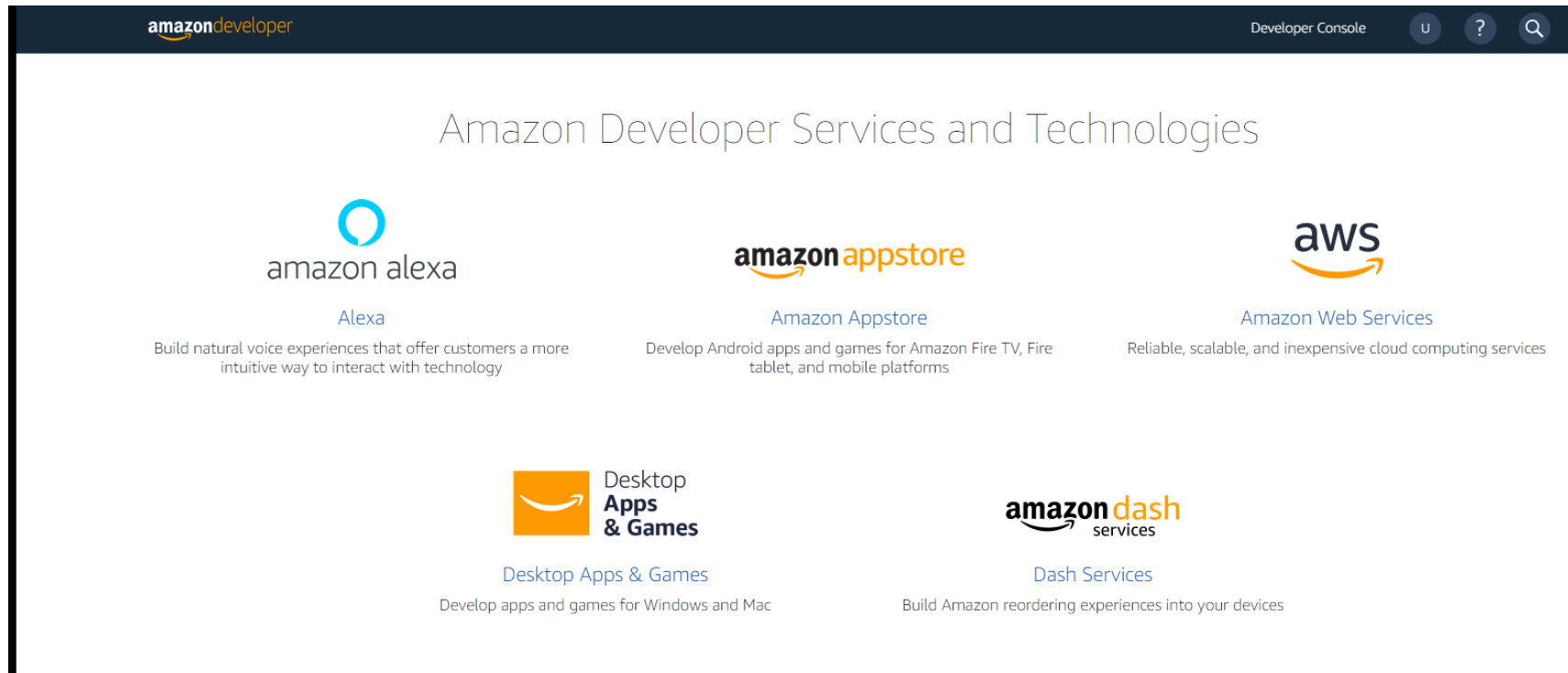
# Tasks 1, 2, 3

- Follow instructions in the Git repository
  - [https://github.com/hao-cheng/ee596\\_spr2019\\_lab1](https://github.com/hao-cheng/ee596_spr2019_lab1)

# Task 4: Create an Alexa Skill

# Step 4.1

- Sign in to the [Amazon developer portal](https://developer.amazon.com/). If you haven't done so already, you'll need to create a free account.
  - <https://developer.amazon.com/>



## Step 4.2

- Click **Developer Console**



on Developer Services and Technologies



Amazon Appstore

Develop Android apps and games for Amazon Fire TV, Fire tablet, and mobile platforms



Amazon Web Services

Reliable, scalable, and inexpensive cloud computing services



Desktop Apps & Games

Develop and publish desktop games for Windows and Mac

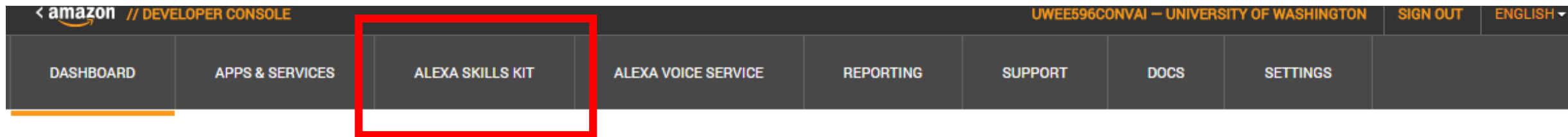


Dash Services

Build Amazon reordering experiences into your devices

# Step 4.3

- Go to **ALEXA SKILL KIT**



## Notifications

All	Critical
No Notifications.	

## Announcements

Version 2 of the Alexa Skills Kit SDK for Java Is Now Available	Mar 29, 2018	The New Alexa Skills Kit Developer Console Is Now Generally Available	Mar 27, 2018
Build Alexa Skills for France   Développez des Skills Alexa pour la France	Mar 12, 2018	Announcing the New Alexa Skills Kit Sound Library to Create More Engaging Skills	Mar 2, 2018
Announcing the New Alexa Skills Kit Developer Console (Beta) to Streamline Your Skill Development Process	Feb 15, 2017	AMAZON.YesIntent and AMAZON.NoIntent are Now Compatible with ASK Dialog Management Features	Feb 14, 2018


# Step 4.4

- Click **Create Skill**

Welcome to the new Alexa Skills Kit Developer Console

Curious about what's new? [Watch the video overview](#) or [read about what's changed](#).

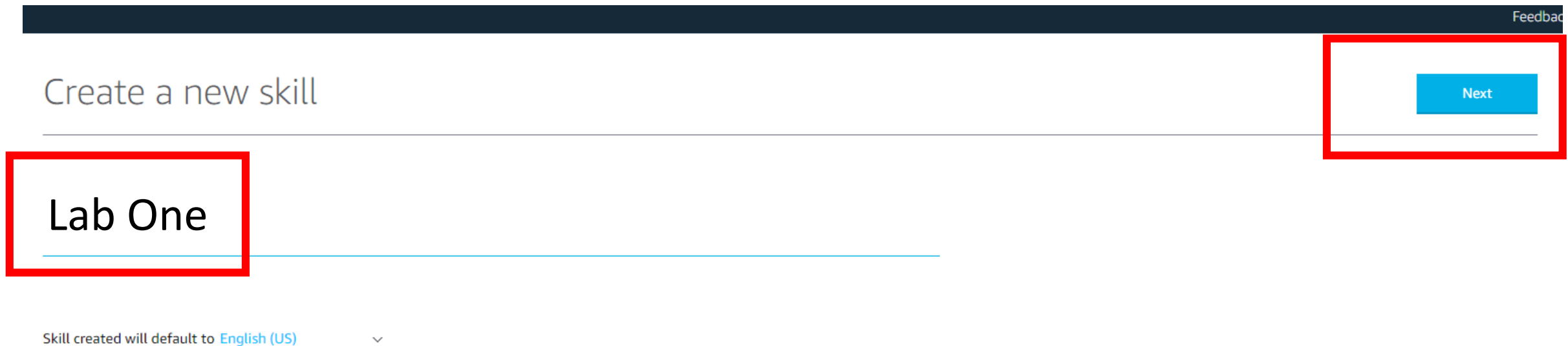
## Alexa Skills

SKILL NAME	LANGUAGE	TYPE	MODIFIED	STATUS
<div><h3>Alexa Skills</h3><p>Create your first skill or learn more about <a href="#">Alexa Skills Kit</a></p><div>Create Skill</div></div>				

Create Skill

## Step 4.5

- Name your skill. This is the name displayed to users in the Alexa app. For this example, we'll call it **Lab One**. Click **Next**.



The screenshot shows the 'Create a new skill' interface. At the top right, there is a 'Feedback' link. Below the header, the text 'Create a new skill' is displayed. A text input field contains the name 'Lab One', which is highlighted with a red rectangular box. To the right of the input field is a blue 'Next' button, also highlighted with a red rectangular box. At the bottom left, a note states 'Skill created will default to English (US)' with a small downward arrow icon.

Create a new skill

Lab One

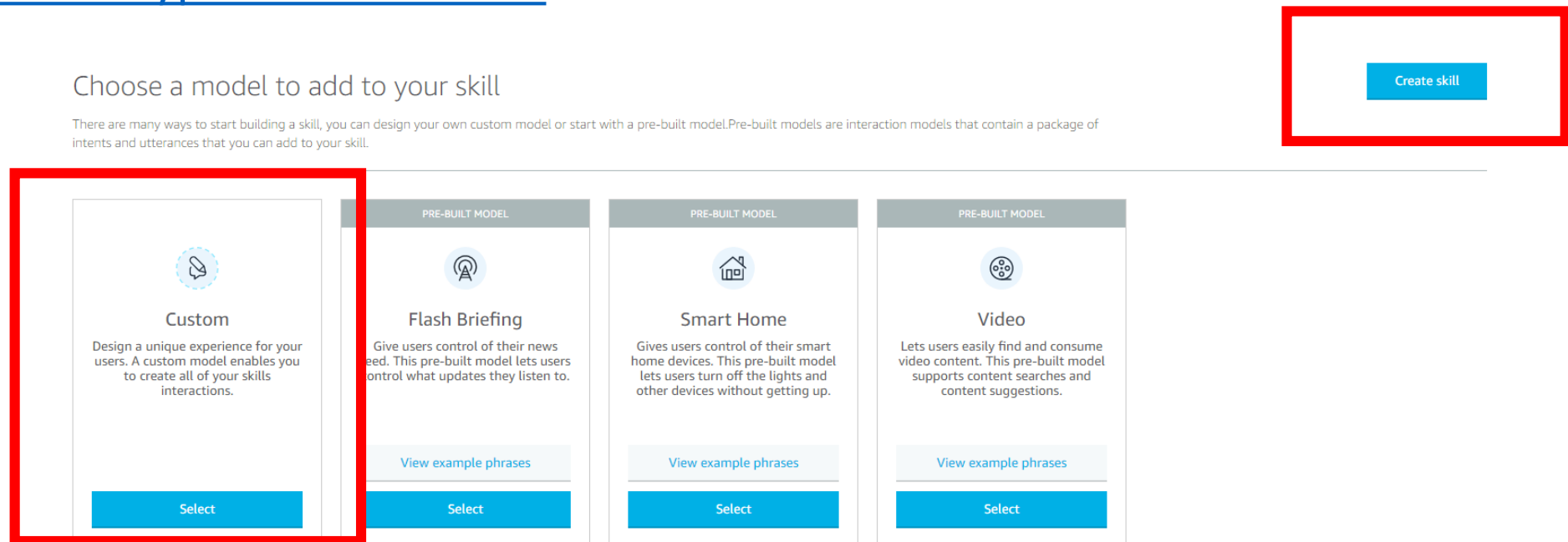
Next

Skill created will default to English (US) ▼



# Step 4.6

- Choose **Custom**. Then click **Create skill**.
  - For different skill models, please read the official documents.
  - <https://developer.amazon.com/docs/ask-overviews/understanding-the-different-types-of-skills.html>



# Step 4.7

- Check the video **How to get started** for a brief introduction.
  - <https://youtu.be/1pvR4aqwGhg>

The screenshot displays the Amazon Alexa Developer Console interface. At the top, a navigation bar includes links for '< Your Skills', 'Color Picker', 'Build' (which is the active tab), 'Test', 'Launch', and 'Measure'. Below this, a language selector shows 'English (U.S.)'. The left sidebar contains a 'CUSTOM' section with an 'Interaction Model' icon, followed by 'Invocations', 'Intents (3)' (with a '+ Add' button), 'Slot Types (0)' (with a '+ Add' button), and 'JSON Editor'. Further down are 'Interfaces' and 'Endpoint' sections. The main content area is titled 'How to get started' and features a video player with the title 'Alexa Skills Kit Developer Console: Build' and the Amazon Alexa logo. Below the video, there is a 'Resources' section with links to 'Documentation', 'Sample Alexa Projects', 'Weekly Office Hours', and 'Alexa Developer Forums'.

# Step 4.8

- Create an invocation name. Let's use the skill name **Lab One**. Choose **Save Model** to continue.
  - Users will say, "Alexa, open **lab one**" to interact with your skill

English (U.S.)

**Save Model** **Build Model**

**CUSTOM**

Interaction Model

**Invocation**

Intents (3) **+ Add**

▼ Built-In Intents (3)

AMAZON.CancelIntent

AMAZON.HelpIntent

AMAZON.StopIntent

Slot Types (0) **+ Add**

**Invocation**

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

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

**Skill Invocation Name** ?

Lab One

# Step 4.9

- Directly go to the **JSON Editor** in the **Interaction Model**.
- Paste the `alexa_skill/interaction_model.json` file in the `ee596_spr2019_lab1` Git repository to the JSON Editor.
- Click **Build Model**.

The screenshot shows the AWS Lambda console interface for configuring an Alexa skill. On the left sidebar, the 'CUSTOM' section is expanded, showing the 'Interaction Model' tab. Below it, a list of intents and slot types is visible: 'Intents (5)' including 'WhatsMyColorIntent', 'MyColorIsIntent' (with a 'Color' slot), and three built-in intents ('AMAZON.CancelIntent', 'AMAZON.HelpIntent', 'AMAZON.StopIntent'); and 'Slot Types (1)' including 'LIST\_OF\_COLORS'. The 'JSON Editor' tab is selected. The main area displays the JSON schema for the interaction model, which defines the language model, invocation name ('color picker'), and a list of intents with their respective slots and sample utterances. The 'Build Model' button in the top right corner is highlighted with a red rectangular box.

English (U.S.) Save Model Build Model

CUSTOM

Interaction Model

Invocation

Intents (5) Add

- WhatsMyColorIntent
- MyColorIsIntent
  - Color
- Built-In Intents (3)
  - AMAZON.CancelIntent
  - AMAZON.HelpIntent
  - AMAZON.StopIntent

Slot Types (1) Add

- LIST\_OF\_COLORS

JSON Editor

Interfaces

Endpoint

ACCOUNT LINKING

JSON Editor

[Click here to learn more about the schema definition for interaction models.](#)

```
1 {
2   "interactionModel": {
3     "languageModel": {
4       "invocationName": "color picker",
5       "intents": [
6         {
7           "name": "AMAZON.CancelIntent",
8           "samples": []
9         },
10        {
11          "name": "AMAZON.HelpIntent",
12          "samples": []
13        },
14        {
15          "name": "AMAZON.StopIntent",
16          "samples": []
17        },
18        {
19          "name": "WhatsMyColorIntent",
20          "slots": [],
21          "samples": [
22            "what's my favorite color"
23          ]
24        },
25        {
26          "name": "MyColorIsIntent",
27          "slots": [
28            {
29              "name": "Color",
30              "type": "LIST_OF_COLORS"
31            }
32          ],
33          "samples": [
34            "my favorite color is {Color}"
35          ]
36        }
37      ]
38    }
39  }
```

# Step 4.10: Configure the Endpoint

The screenshot shows the 'Configure the Endpoint' page in the AWS Alexa Developer Console. The left sidebar contains a navigation menu with 'Endpoint' highlighted. The main content area includes a 'Save Endpoints' button, an 'Endpoint' information box, a 'Service Endpoint Type' section with 'HTTPS' selected, and a 'Default Region' dropdown. Annotations with arrows point to specific elements: '1' points to the 'Endpoint' menu item, '2' points to the ngrok URL input field, and '3' points to the certificate type dropdown.

**1** → Endpoint

**4. Save Endpoint.** → Save Endpoints

**2. Paste your ngrok address here.** → `https://da546792.ngrok.io`

**3. Choose this option for certificate.** → My development endpoint is a sub-domain of a domain that has a wildcard certificate fro...

Endpoint

The Endpoint will receive POST requests when a user interacts with your Alexa Skill. The request body contains parameters that your service can use to perform logic and generate a JSON-formatted response. Learn more about AWS Lambda endpoints [here](#). You can host your own HTTPS web service endpoint as long as the service meets the requirements described [here](#).

Service Endpoint Type

Select how you will host your skill's service endpoint.

☐ AWS Lambda ARN (Recommended) ⓘ

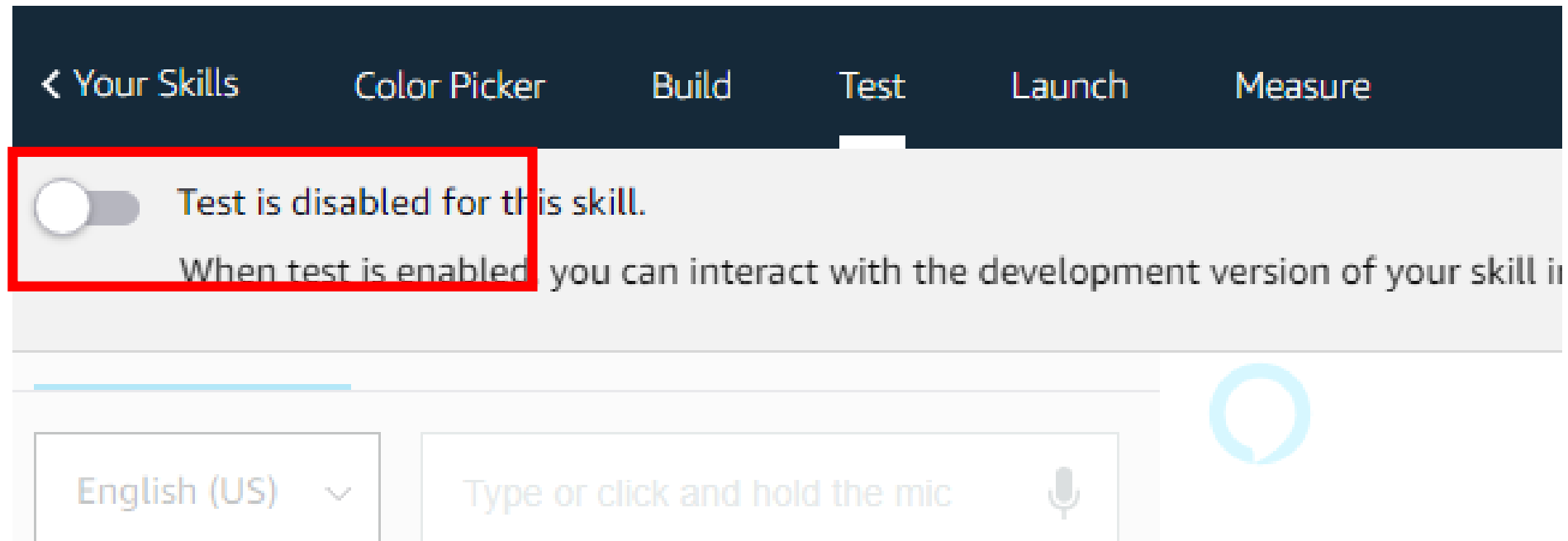
☒ HTTPS ⓘ

Default Region (Required) ⓘ

Select SSL certificate type

## Step 4.11

- Go to the **Test** tab and Enable test.



# Step 4.12

- Type “open lab one” & talk with the bot using either text or voice.
- Click the bot utterance and analyze the **JSON input** and **JSON output**.

The screenshot displays the Alexa Skills Kit console interface for testing a skill. At the top, there are tabs for 'Alexa Simulator', 'Manual JSON', and 'Voice & Tone'. The 'Alexa Simulator' tab is active, showing a chat interface with a blue header bar containing the text 'Welcome to the Alexa Skills Kit sample. Please tell me your favorite color by saying, my favorite color is red'. Below this, there are three chat bubbles: a blue one with the same welcome message (highlighted with a red box), a grey one with 'my favorite color is red', and a white one with 'I now know your favorite color is red. You can ask me your favorite color by saying, what's my favorite color?'. To the right of the chat interface, there are two panels: 'Skill I/O' and 'JSON Output'. The 'Skill I/O' panel shows the JSON input for the first utterance, and the 'JSON Output' panel shows the JSON output for the same utterance. Both panels are highlighted with red boxes.

Test is enabled for this skill

☑ Skill I/O ☑ Echo Show Display ☐ Device Log

Alexa Simulator Manual JSON Voice & Tone

English (US) Type or click and hold the mic

open color picker

Welcome to the Alexa Skills Kit sample. Please tell me your favorite color by saying, my favorite color is red

my favorite color is red

I now know your favorite color is red. You can ask me your favorite color by saying, what's my favorite color?

what is my favorite color

Your favorite color is red. Goodbye.

Skill I/O

JSON Input

```
1 {
2   "version": "1.0",
3   "session": {
4     "new": true,
5     "sessionId": "amzn1.echo-api.session.3a2f47ec-d5ad-4b8c-a3d3-0ee1b3d",
6     "application": {
7       "applicationId": "amzn1.ask.skill.d52b91fc-96c8-4a4c-802e-bf2b37"
8     },
9     "user": {
10      "userId": "amzn1.ask.account.AEKNNPQKK7HX224WTJBL2ME5PDFCIPKWT7Z"
11    }
12  },
13  "context": {
14    "AudioPlayer": {
15      "playerActivity": "IDLE"
16    },
17    "Display": {},
18    "System": {
19      "application": {
20        "applicationId": "amzn1.ask.skill.d52b91fc-96c8-4a4c-802e-bf"
21      },
22      "user": {
23        "userId": "amzn1.ask.account.AEKNNPQKK7HX224WTJBL2ME5PDFCIPK"
24      },
25      "device": {
26        "deviceId": "amzn1.ask.device.AF400E55VVSICYRD235XZw62K6A07"
27      },
28      "supportedInterfaces": {
29        "AudioPlayer": {},
30        "Display": {
31          "templateVersion": "1.0",
32          "markupVersion": "1.0"
33        }
34      }
35    }
36  }
37 }
```

JSON Output

```
1 {
2   "body": {
3     "version": "1.0",
4     "response": {
5       "outputSpeech": {
6         "type": "PlainText",
7         "text": "Welcome to the Alexa Skills Kit sample. Please tell me"
8       },
9       "card": {
10        "type": "Simple",
11        "title": "SessionSpeechlet - Welcome",
12        "content": "SessionSpeechlet - Welcome to the Alexa Skills Kit"
13      },
14       "reprompt": {
15        "outputSpeech": {
16          "type": "PlainText",
17          "text": "Please tell me your favorite color by saying, my f"
18        }
19      },
20       "shouldEndSession": false
21    },
22    "sessionAttributes": {}
23  }
24 }
```