Lab 1: Hello Alexa

EE596B/LING580K Conversational Artificial Intelligence

Hao Fang

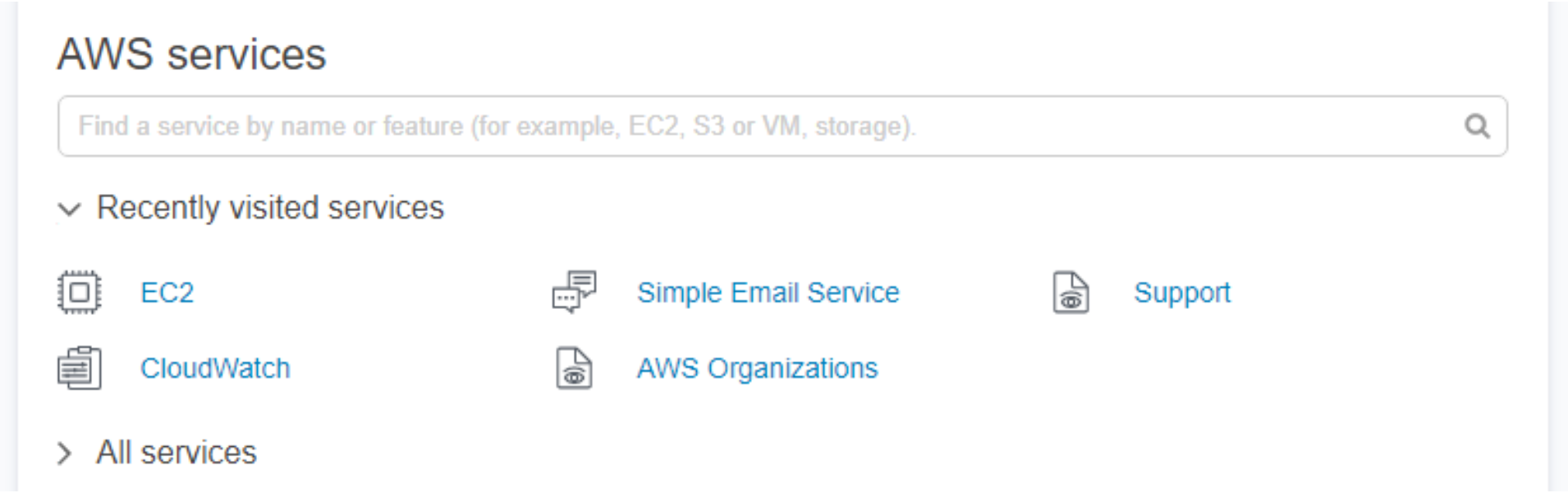
Outline

- Task 1: Create your first Alexa Skill
  - Step 1: Create an AWS Lambda function
  - Step 2: Create an Alexa Skill
  - Step 3: Test your skill using the Service Simulator
- Task 2: Create an AWS Lambda function from scratch
- Task 3: Deploy the AWS Lambda function using command-line

Step 1: Create an AWS Lambda function

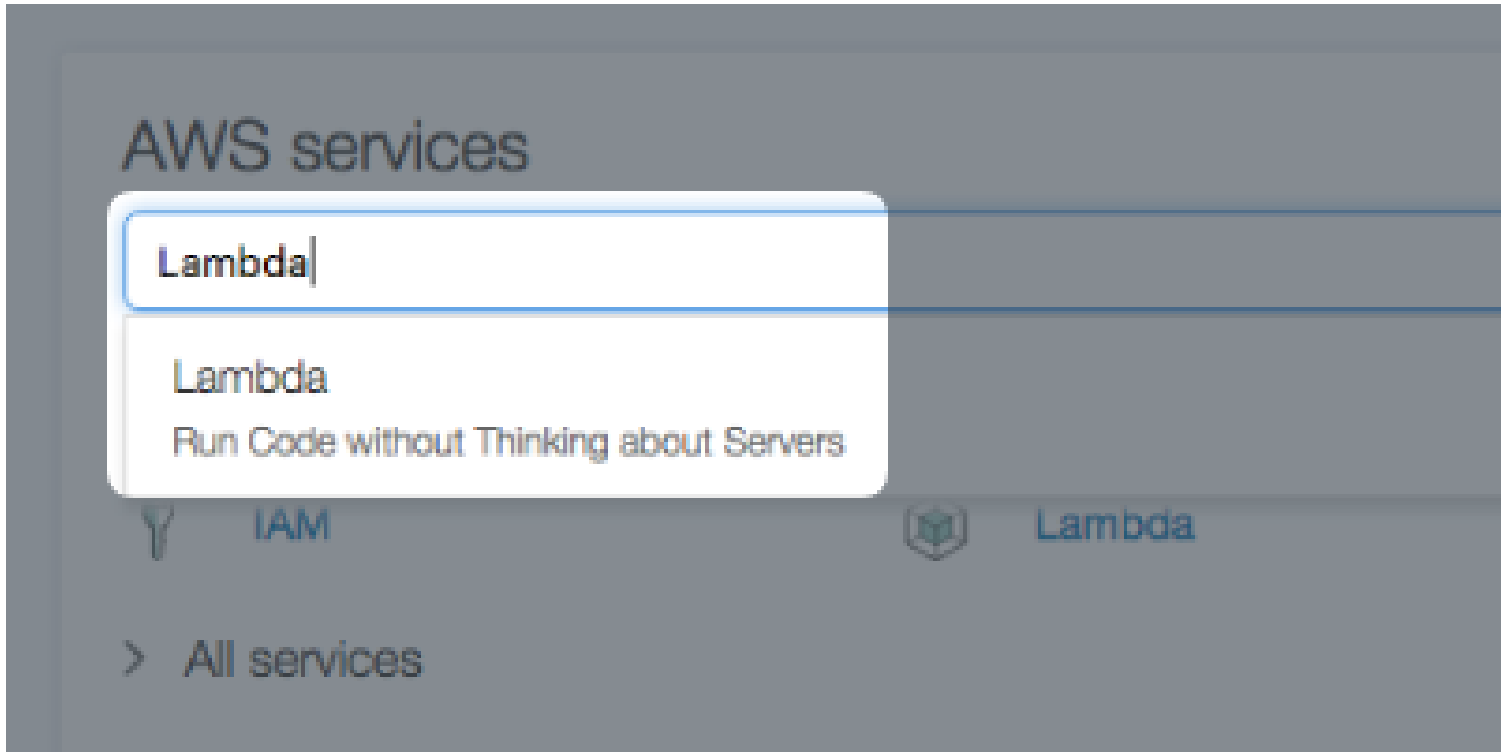
Step 1.1

- Log in to the AWS Management Console. If you haven't done so already, you'll need to create a free account.
  - http://console.aws.amazon.com



Step 1.2

- From the list of services, select **Lambda**.

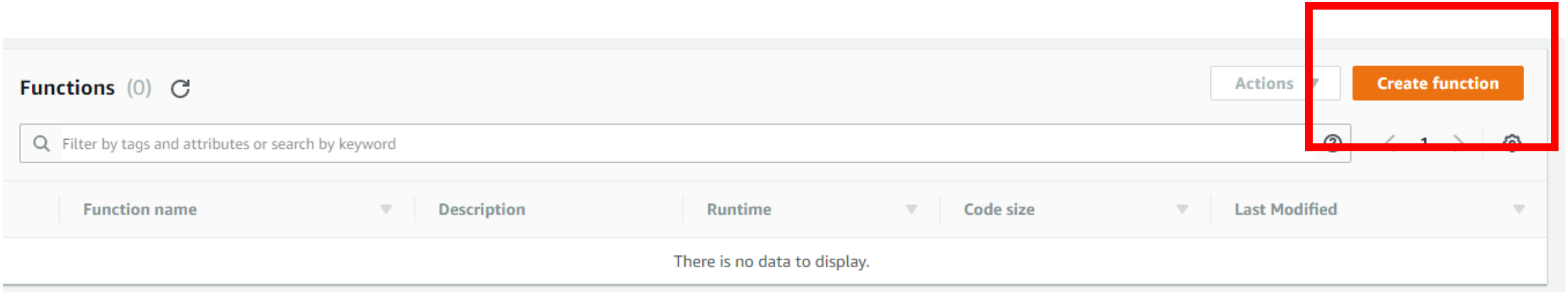


Step 1.3

- Click the region drop-down in the upper-right corner of the console and select **US East (N. Virginia)**, which is a supported region for Lambda functions used with the Alexa Skills Kit.

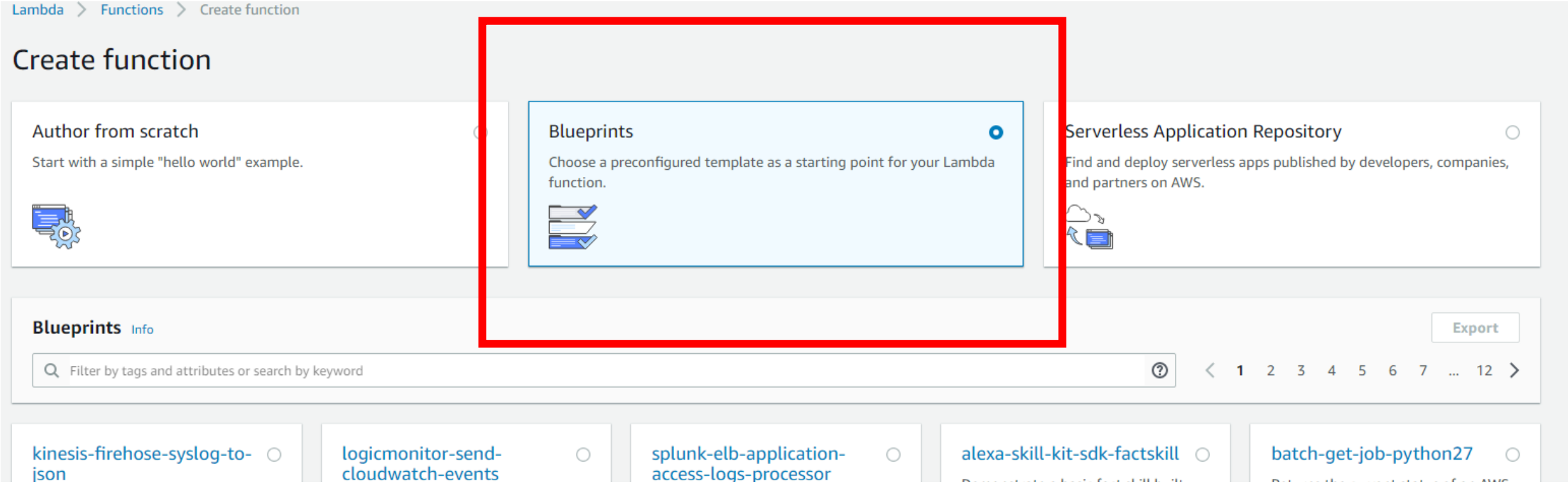
Step 1.4

- Choose **Create a Lambda Function.**



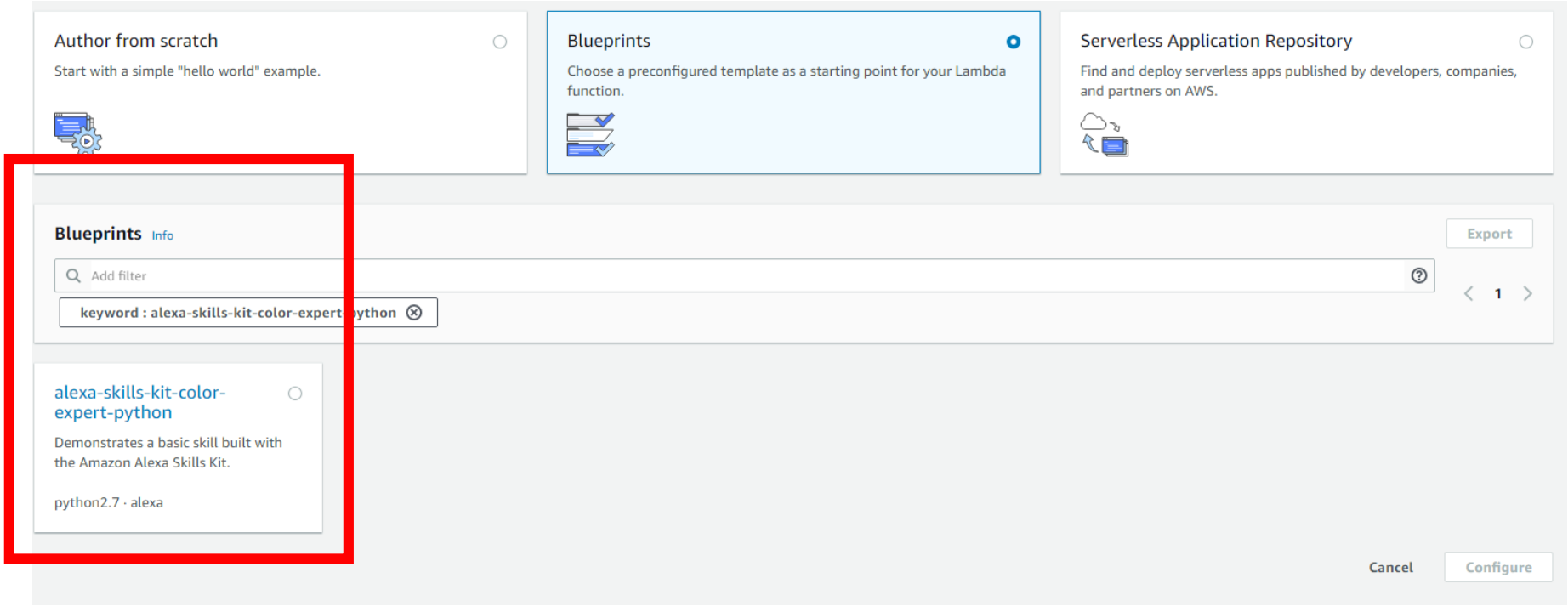
Step 1.5

- Choose a blueprint for your new function.



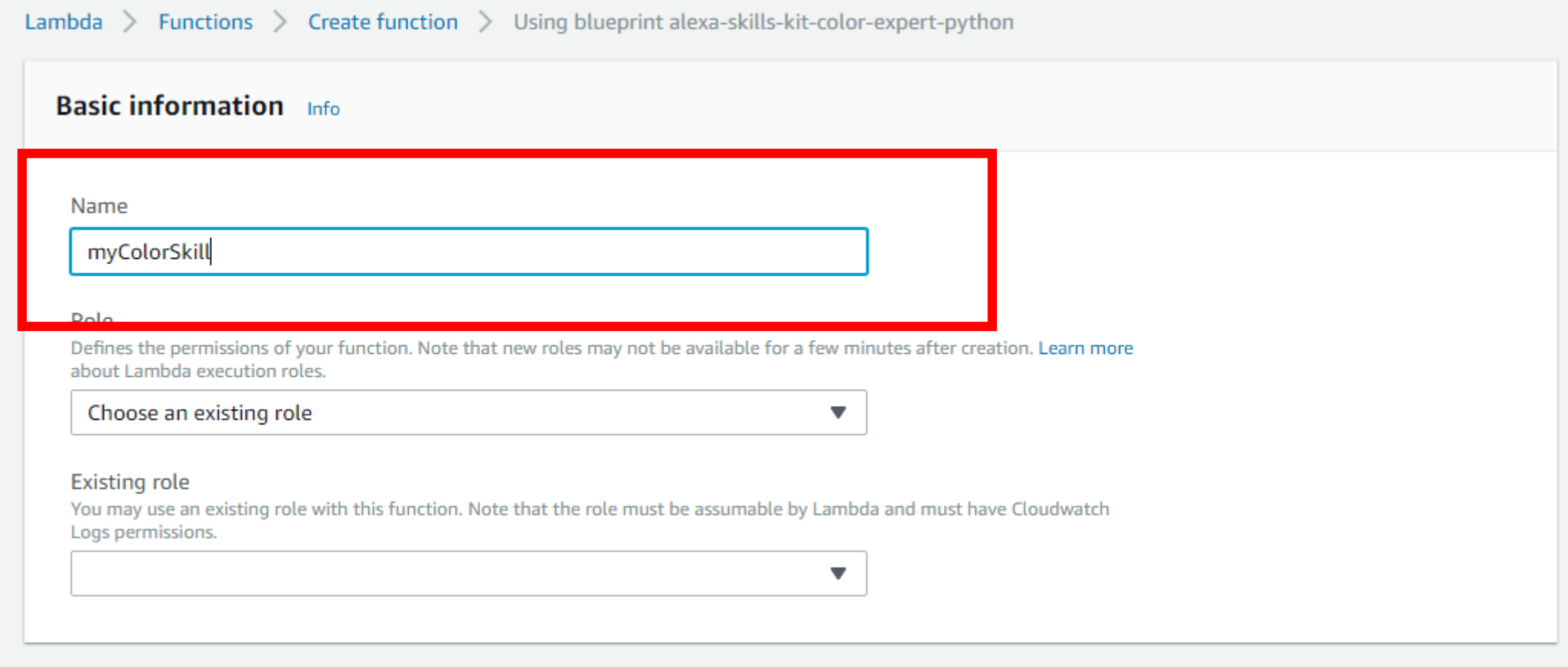
Step 1.6

- Select blueprint **alexa-skills-kit-color-expert-python**. Make sure to choose the blueprint that ends in **-python**.
- Click “Configure”



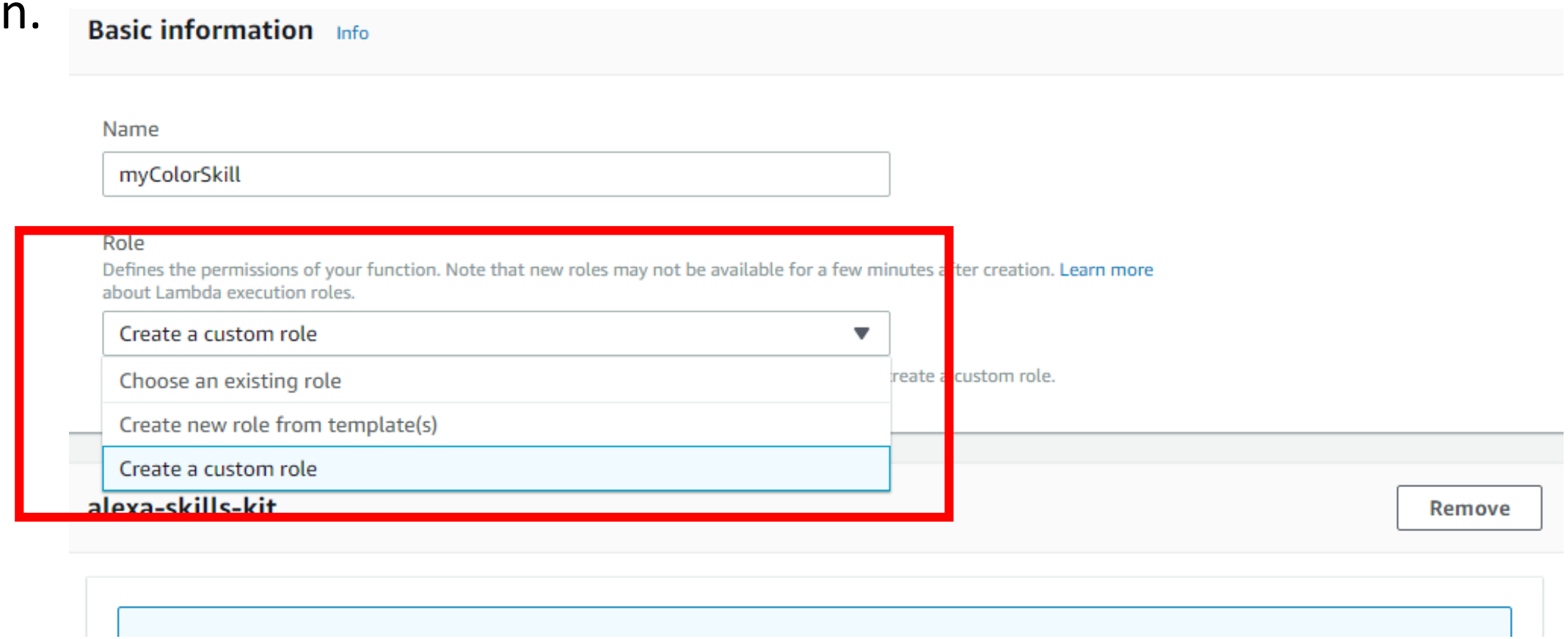
Step 1.7

- Name your function. We'll use **myColorSkill** for this walkthrough.



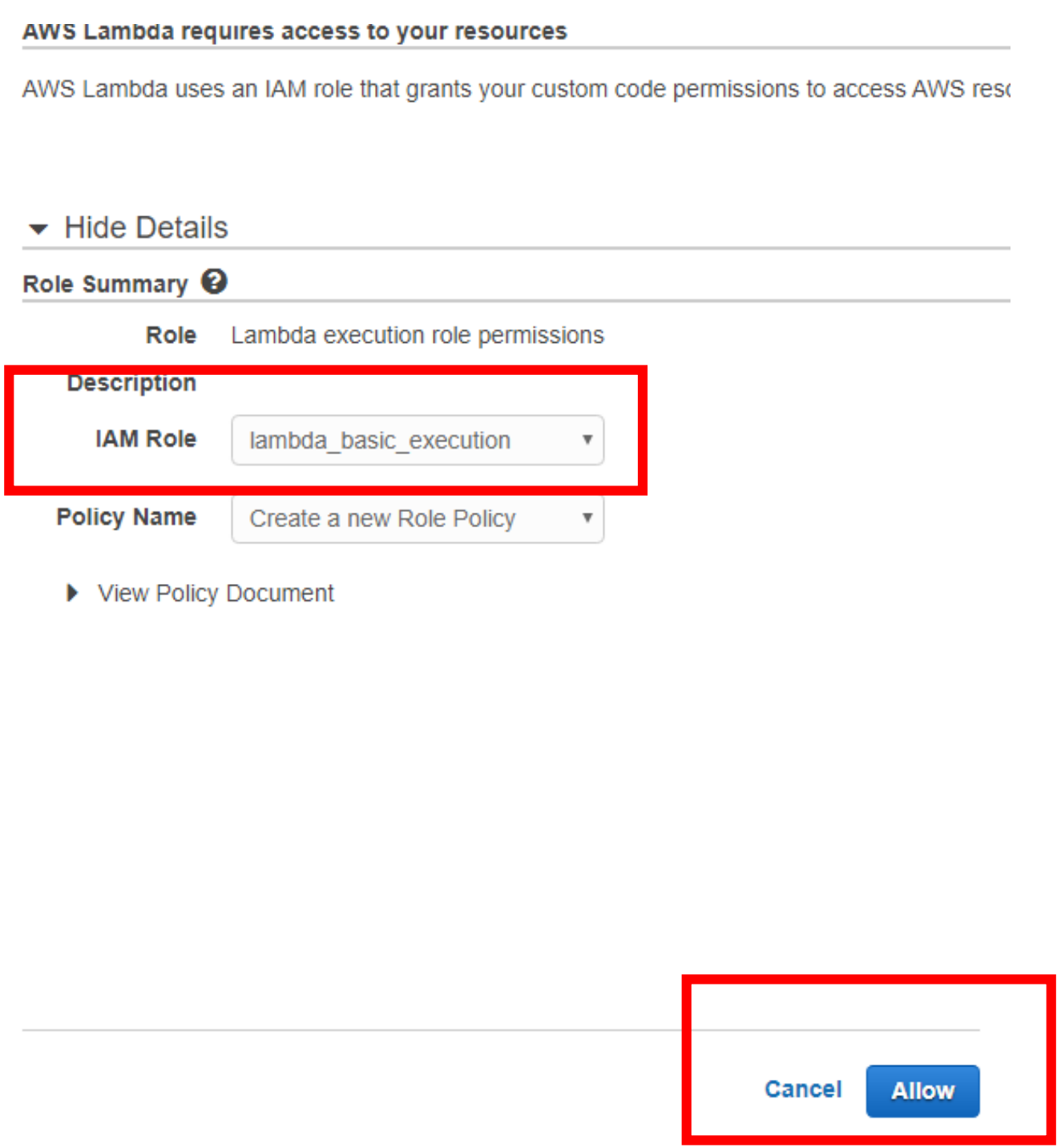
Step 1.8

- Under **Role**, select **Create a custom role**. A new webpage will be open.



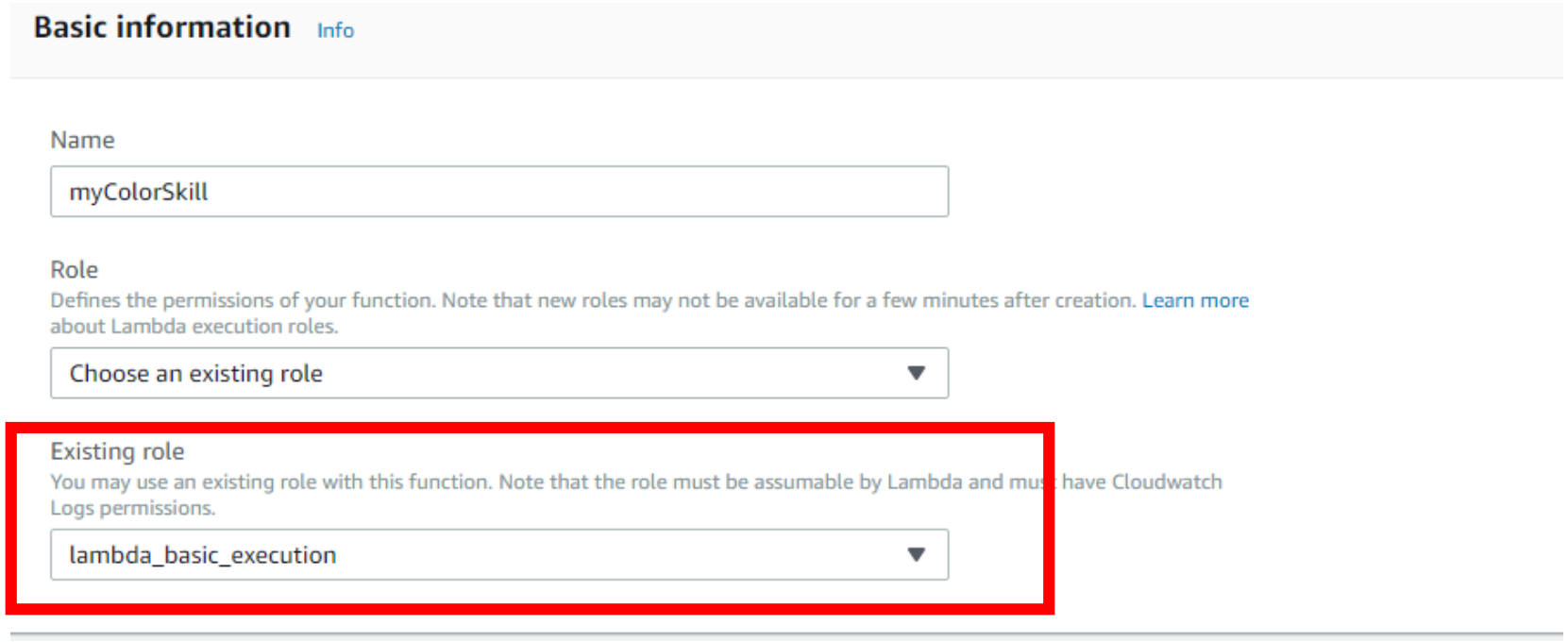
Step 1.9

- When the IAM role management console opens, choose **Allow** to go back to the previous Lambda console.



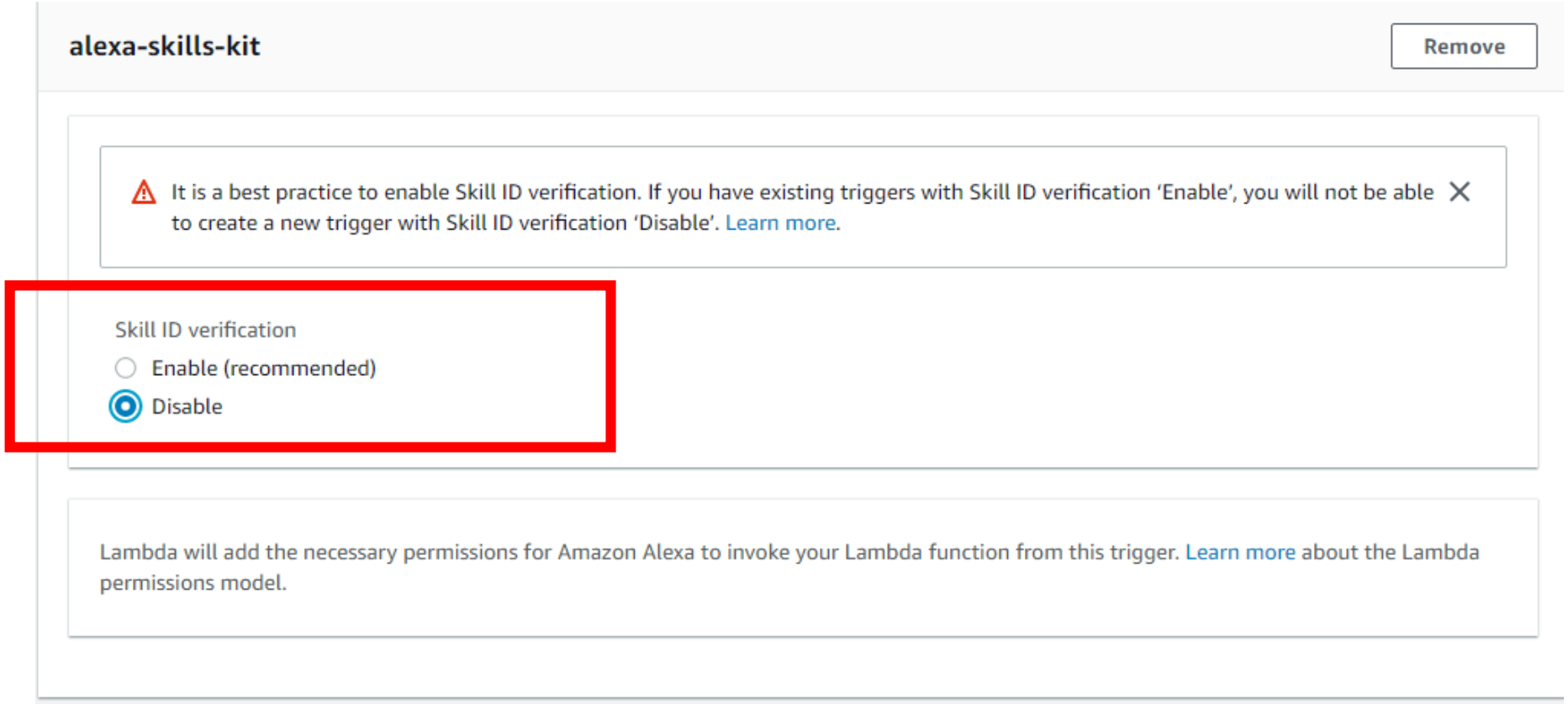
Step 1.10

- Make sure the **Existing Role** is lambda_basic_execution.



Step 1.11

- For simplicity, let's first **Disable** the Skill ID verification.
  - We will know the Skill ID in Step 2.22.



Step 1.12

- Click **Create Function**.

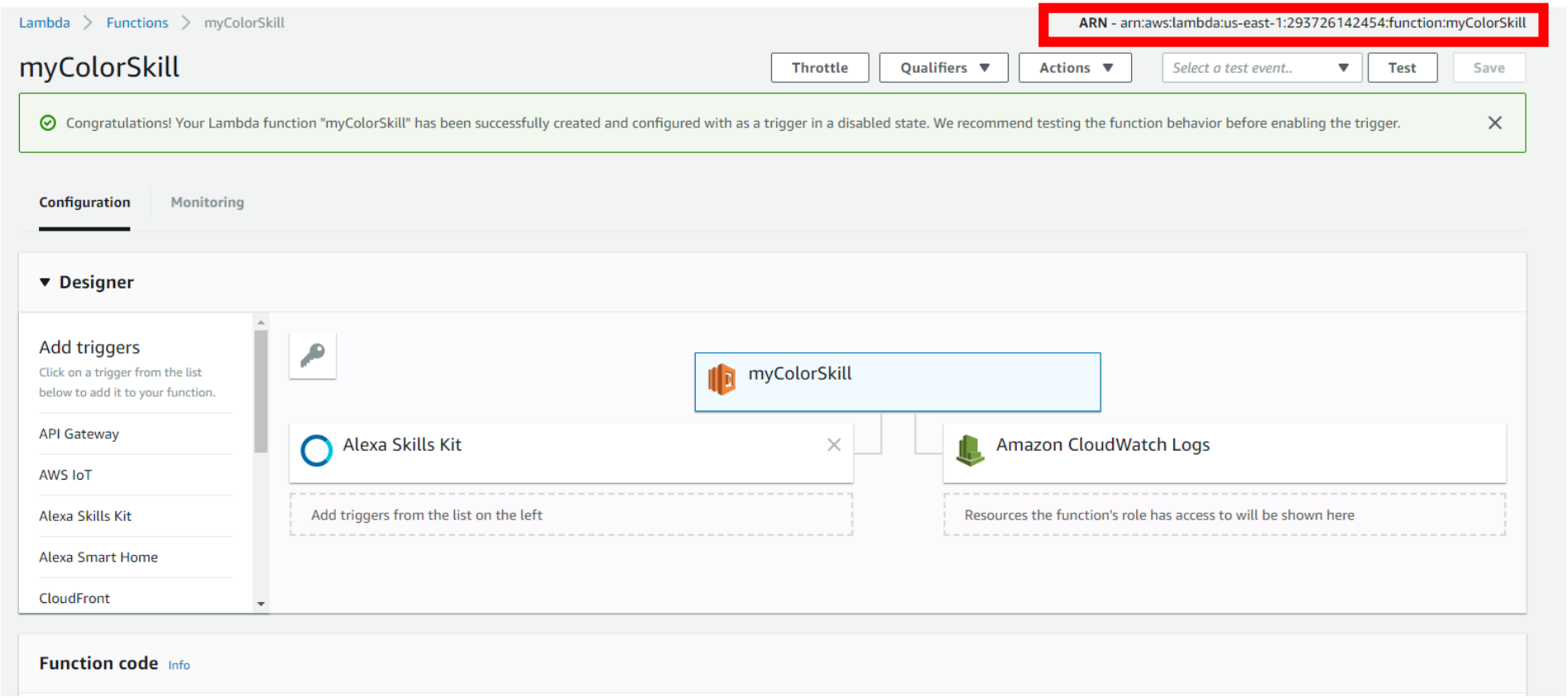
```
15 def build_speechlet_response(title, output, reprompt_text, should_end_session):
16     return {
17         'outputSpeech': {
18             'type': 'PlainText',
19             'text': output
20         },
21         'card': {
22             'type': 'Simple',
23             'title': "SessionSpeechlet - " + title,
24             'content': "SessionSpeechlet - " + output
25         },
26         'reprompt': {
27             'outputSpeech': {
28                 'type': 'PlainText',
29                 'text': reprompt_text
```

These fields are required.

Cancel | Previous | Create function

Step 1.13

- Your Lambda function “myColorSkill” is created!
- Now remember your ARN. We will need it in Step 2.21.



Step 1.14

- Review the **Function Code** section
  - What is the value in **Runtime**?
  - What is the value in **Handler**?

Function code Info

Code entry type: Edit code inline

Runtime: Python 2.7

Handler Info: lambda_function.lambda_handler

File Edit Find View Goto Tools Window

Environment

myColorSkill

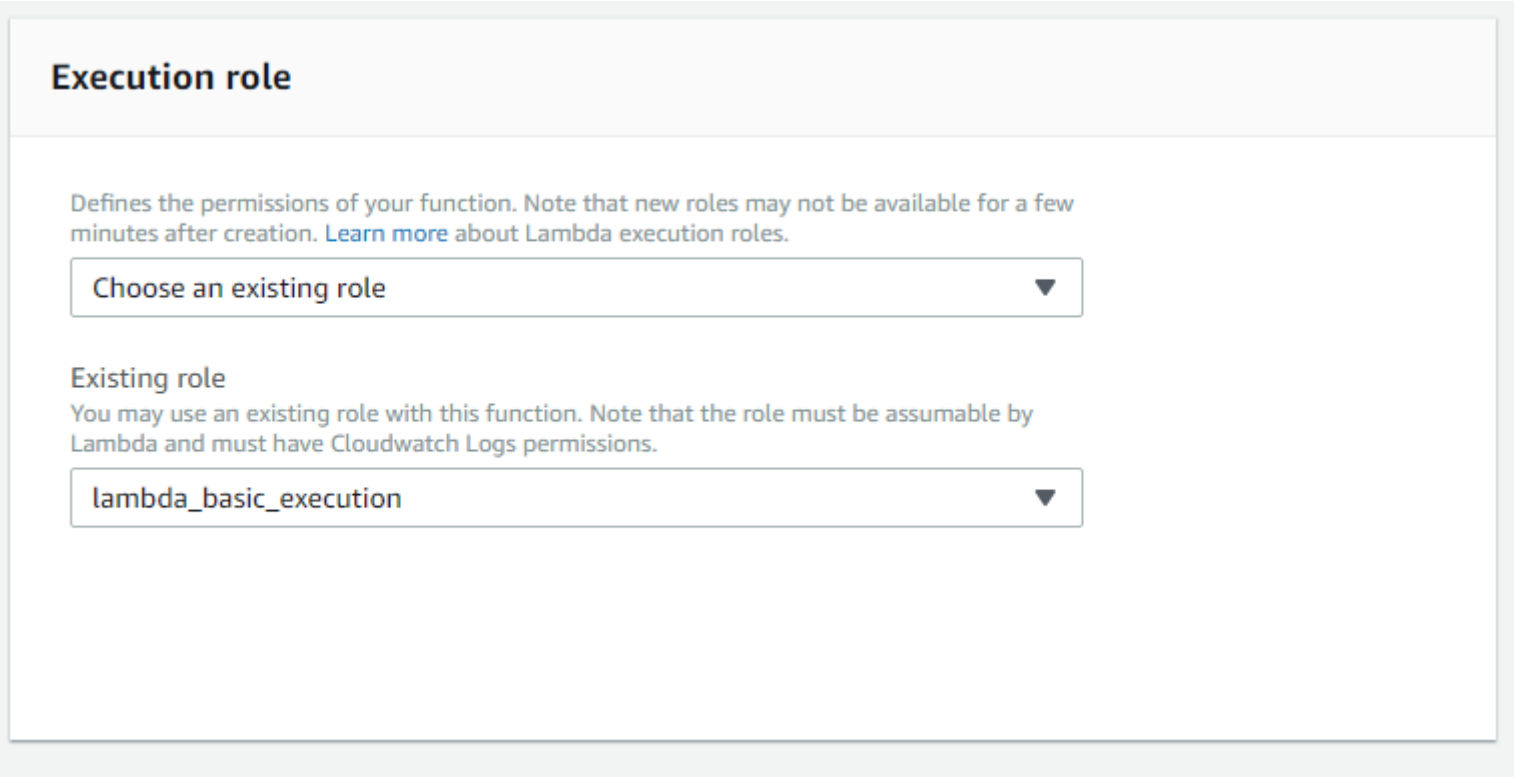
lambda_function.py

```python
For additional samples, visit the Alexa Skills Kit Getting Started guide at
http://amzn.to/1LGWsLG
"""

from __future__ import print_function


# --------------- Helpers that build all of the responses ----------------------

def build_speechlet_response(title, output, reprompt_text, should_end_session):
    return {
        'outputSpeech': {
            'type': 'PlainText',
            'text': output
        },
        'card': {
            'type': 'Simple',
            'title': "SessionSpeechlet - " + title,
            'content': "SessionSpeechlet - " + output
        },
        'reprompt': {
            'outputSpeech': {
                'type': 'PlainText',
                'text': reprompt_text
            }
        },
        'shouldEndSession': should_end_session
    }


def build_response(session_attributes, speechlet_response):
    return {
        'version': '1.0',
        'sessionAttributes': session_attributes,
        'response': speechlet_response
    }
```

1:1 Python Spaces: 4

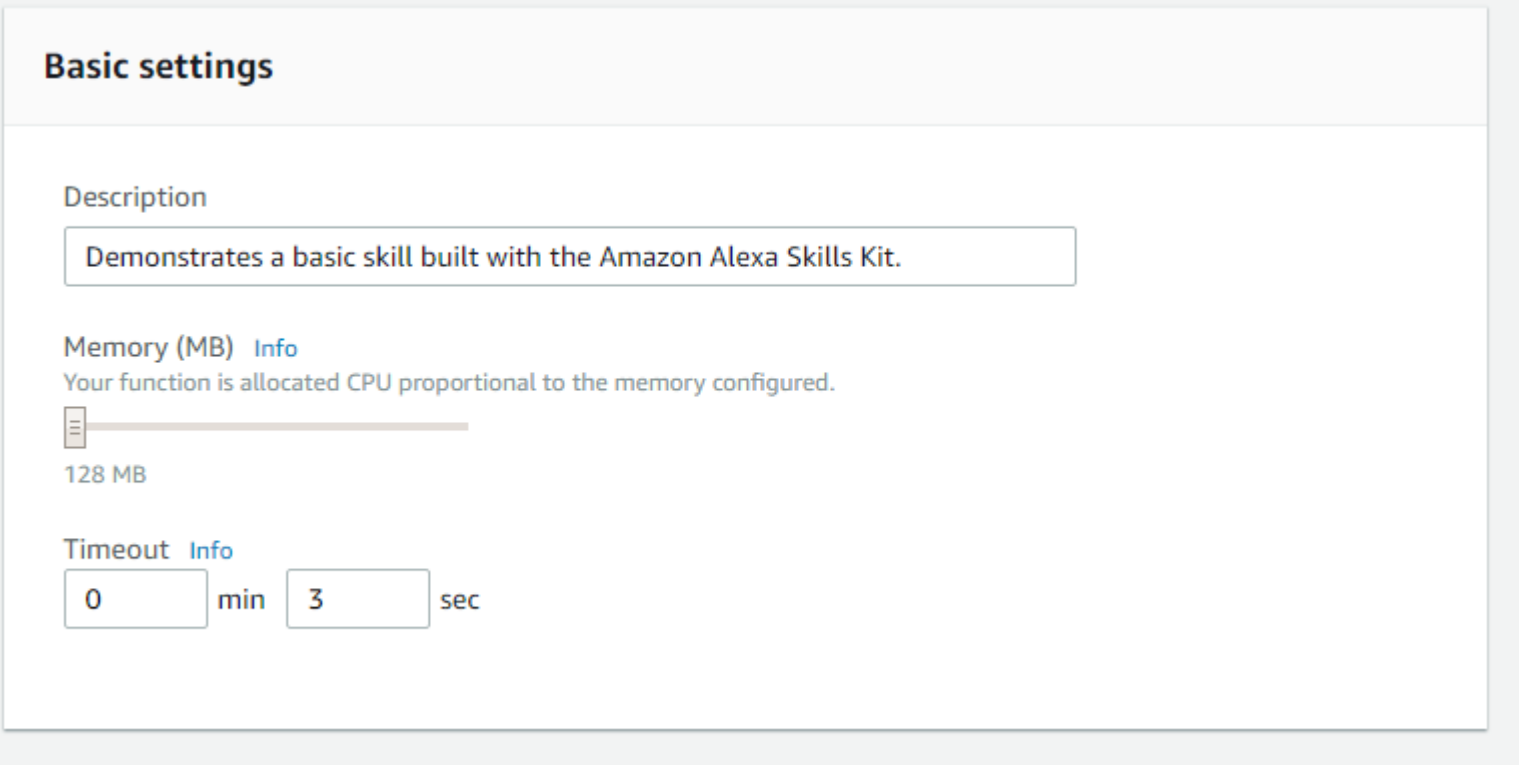
Step 1.15

- Review the **Execution Role** section and compare with Step1.9 & 1.10.



Step 1.16

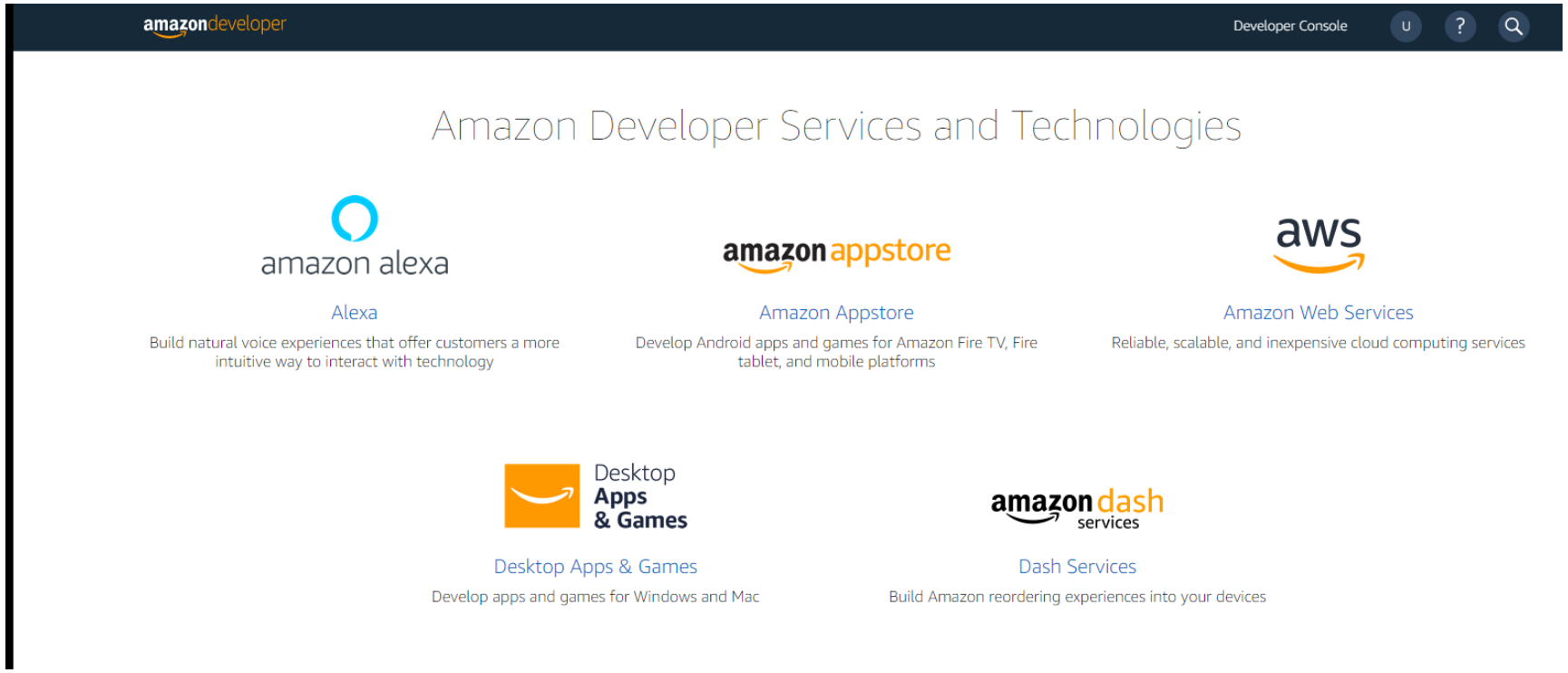
- Review the **Basic settings**
  - What is the **Memory (MB)** value?
  - What is the **Timeout** value?



Step 2: Create an Alexa Skill

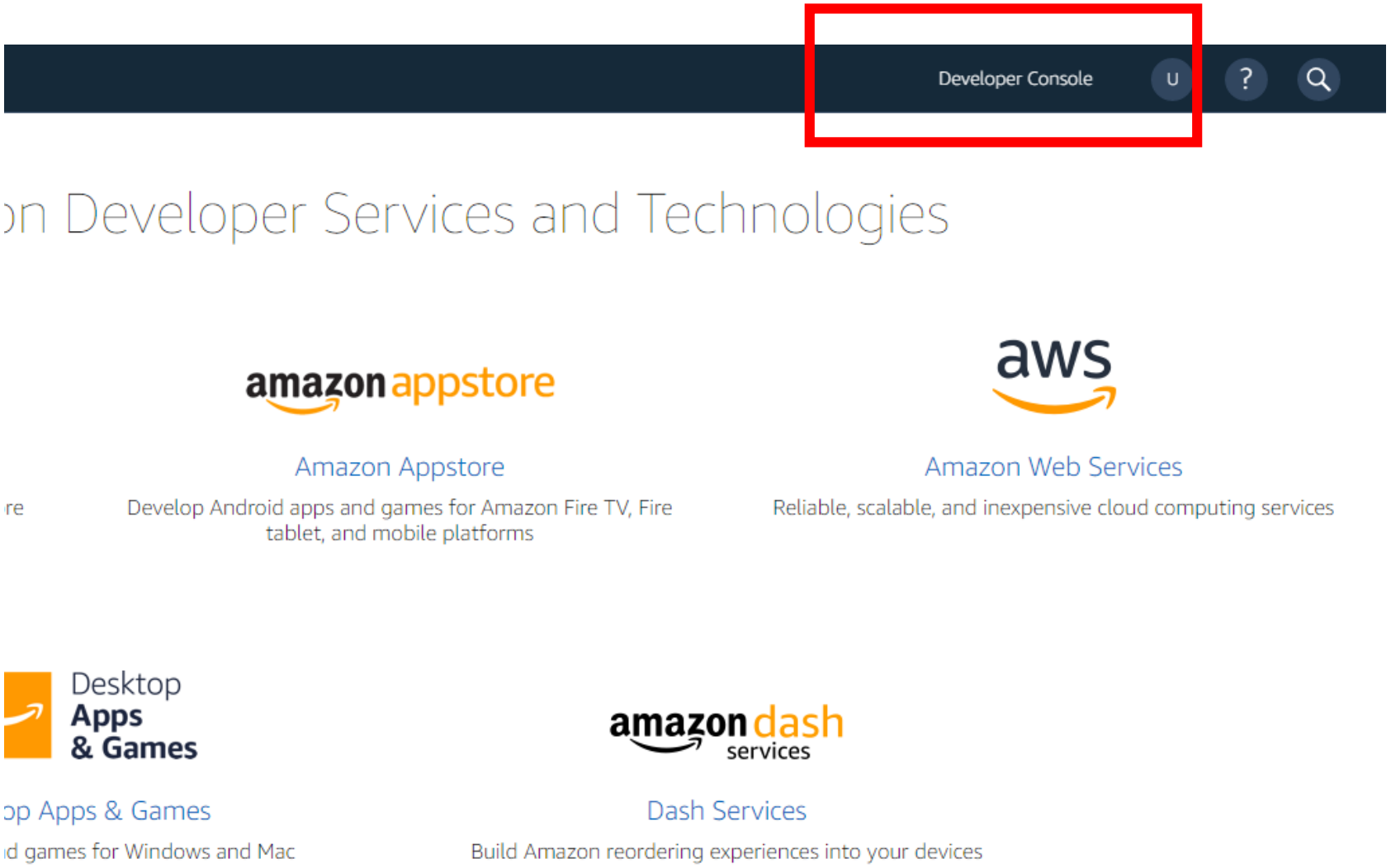
Step 2.1

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



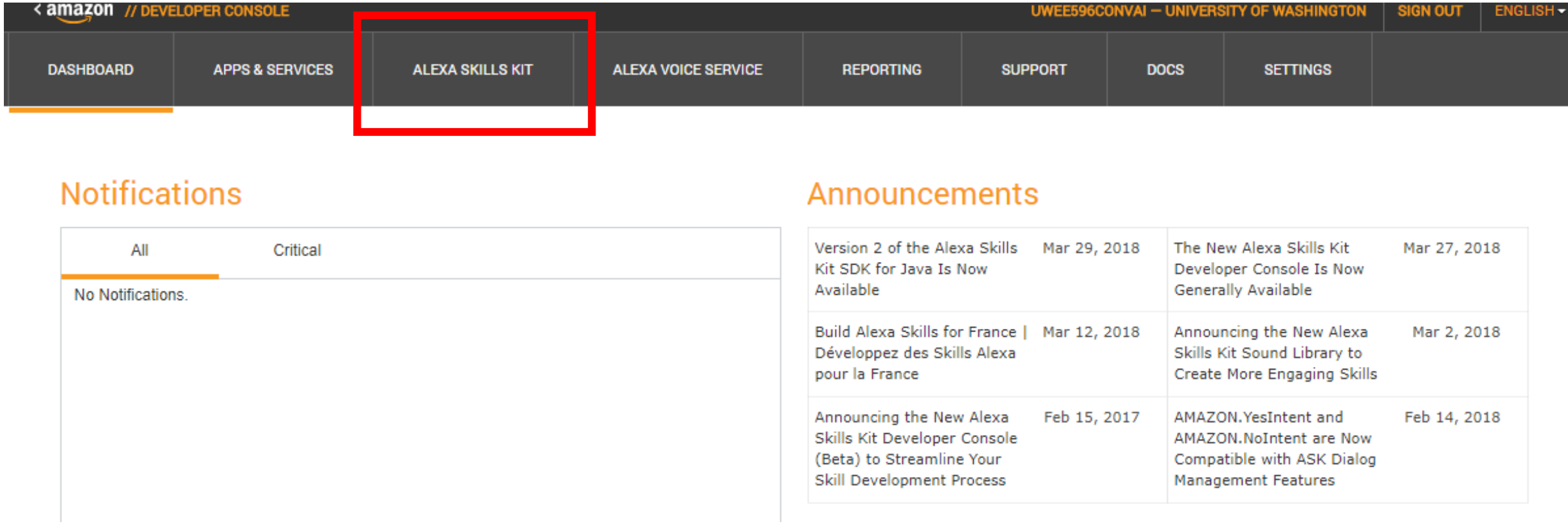
Step 2.2

- Click **Developer Console**



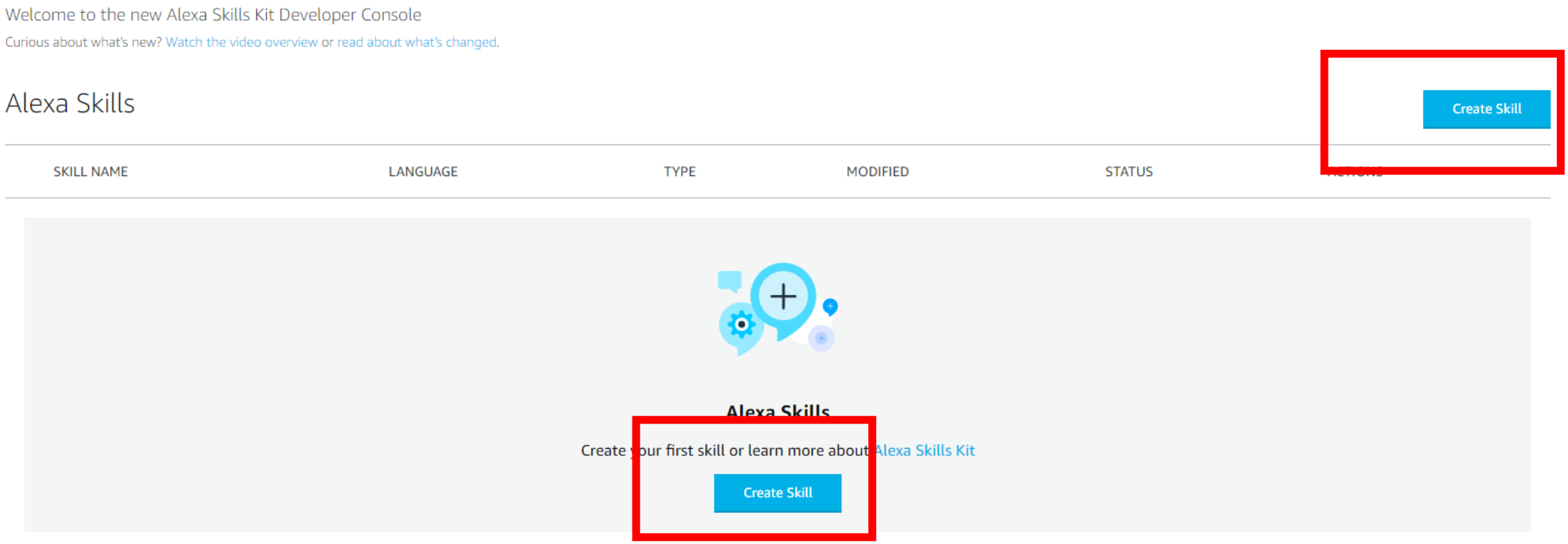
Step 2.3

- Go to **ALEXA SKILL KIT**



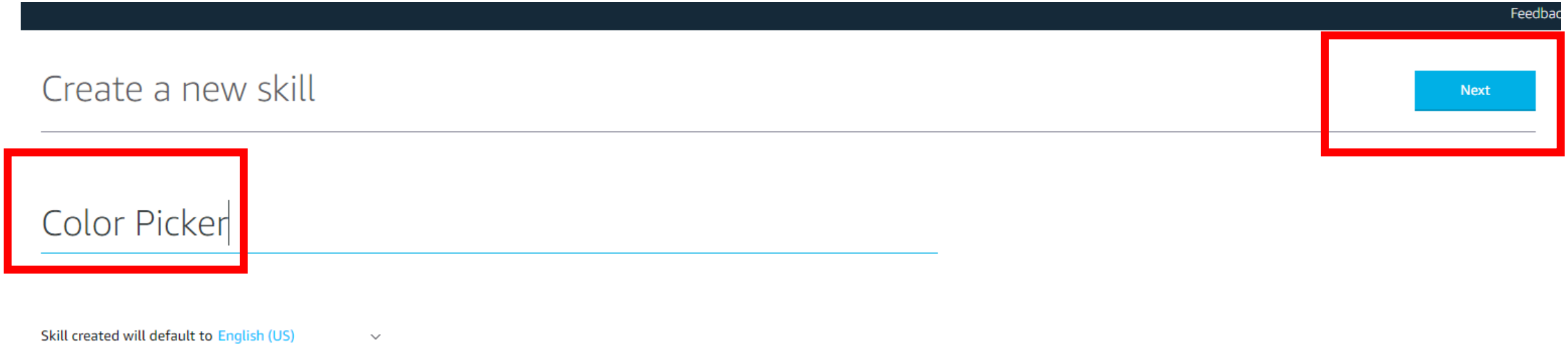
Step 2.4

- Click **Create Skill**



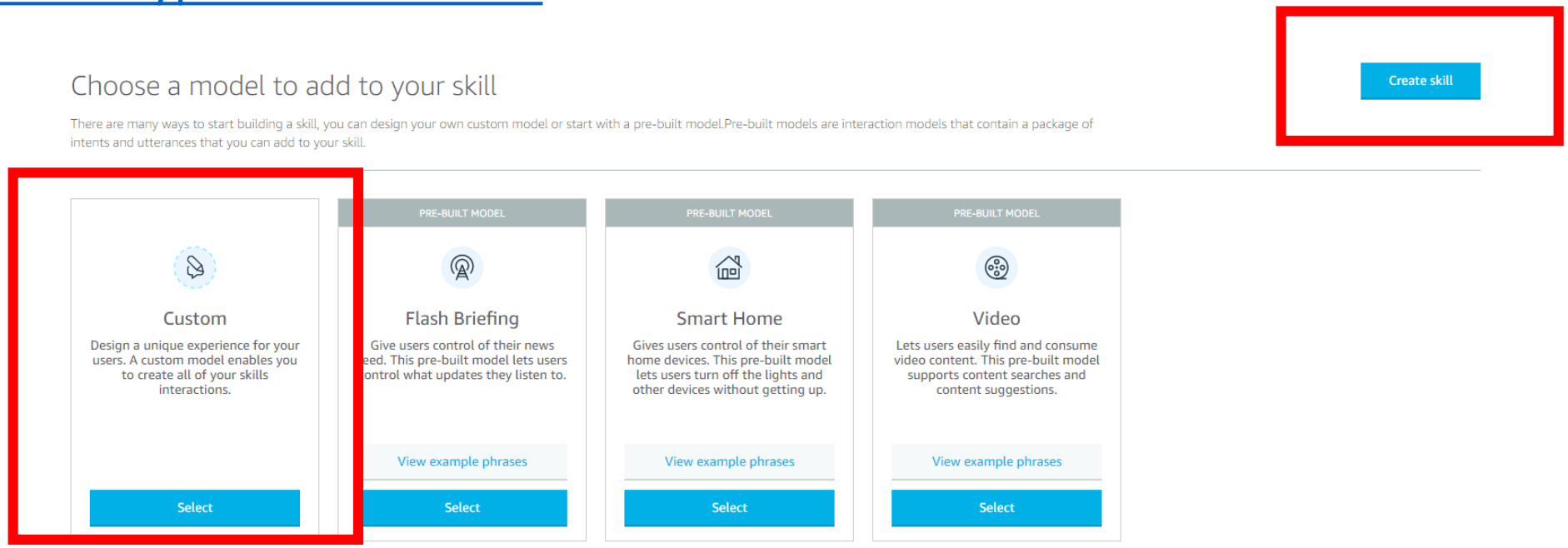
Step 2.5

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



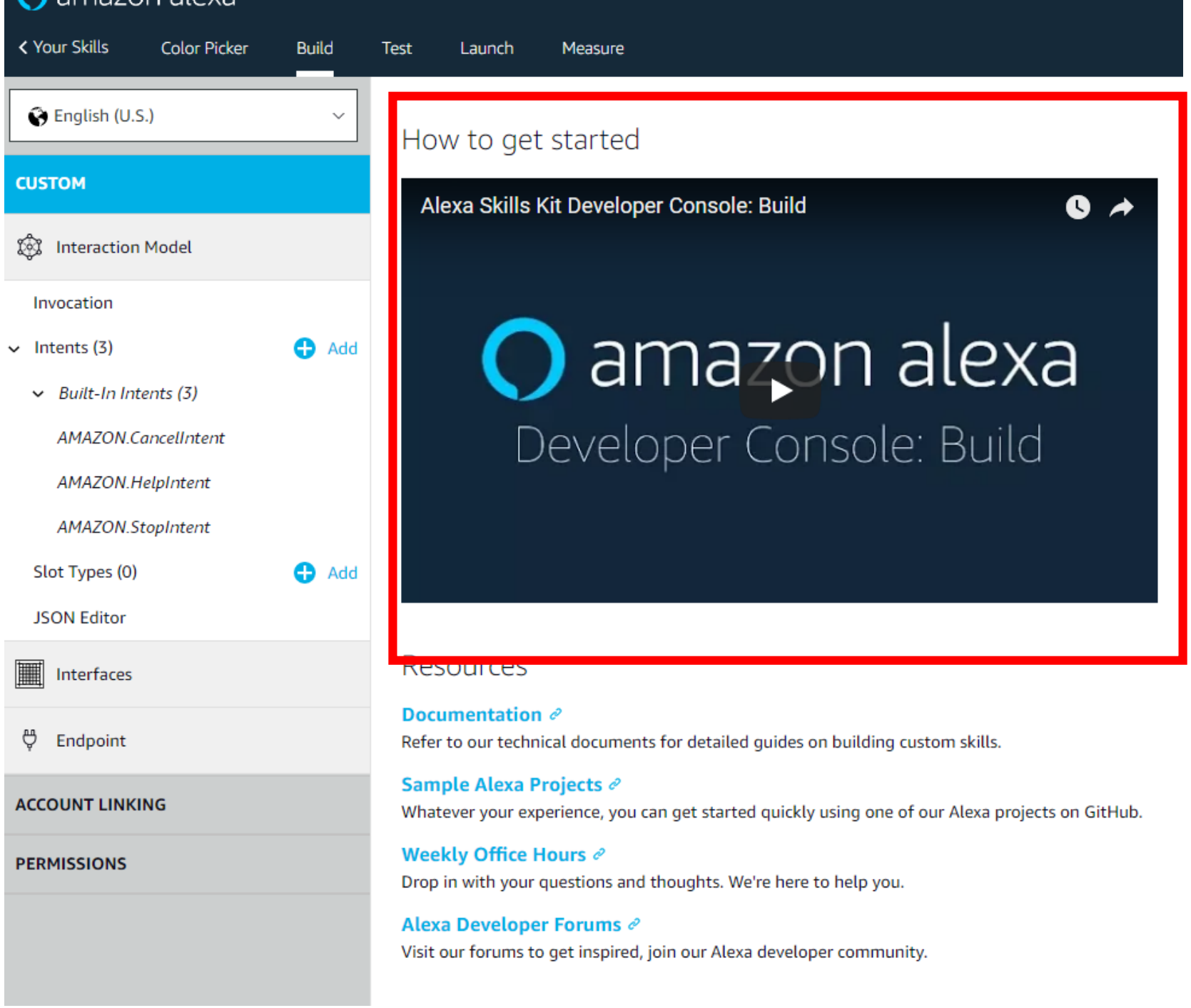
Step 2.6

- 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



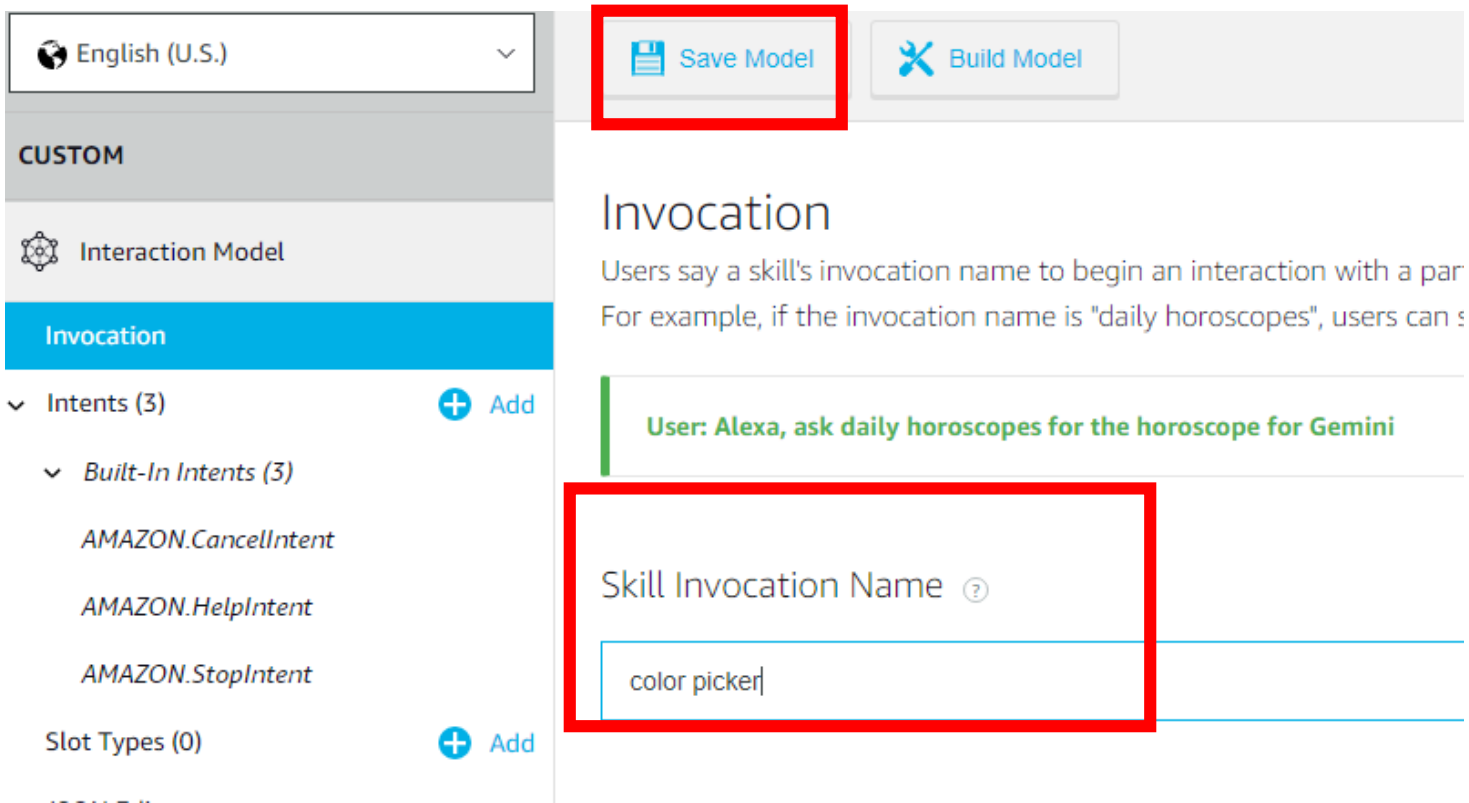
Step 2.7

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



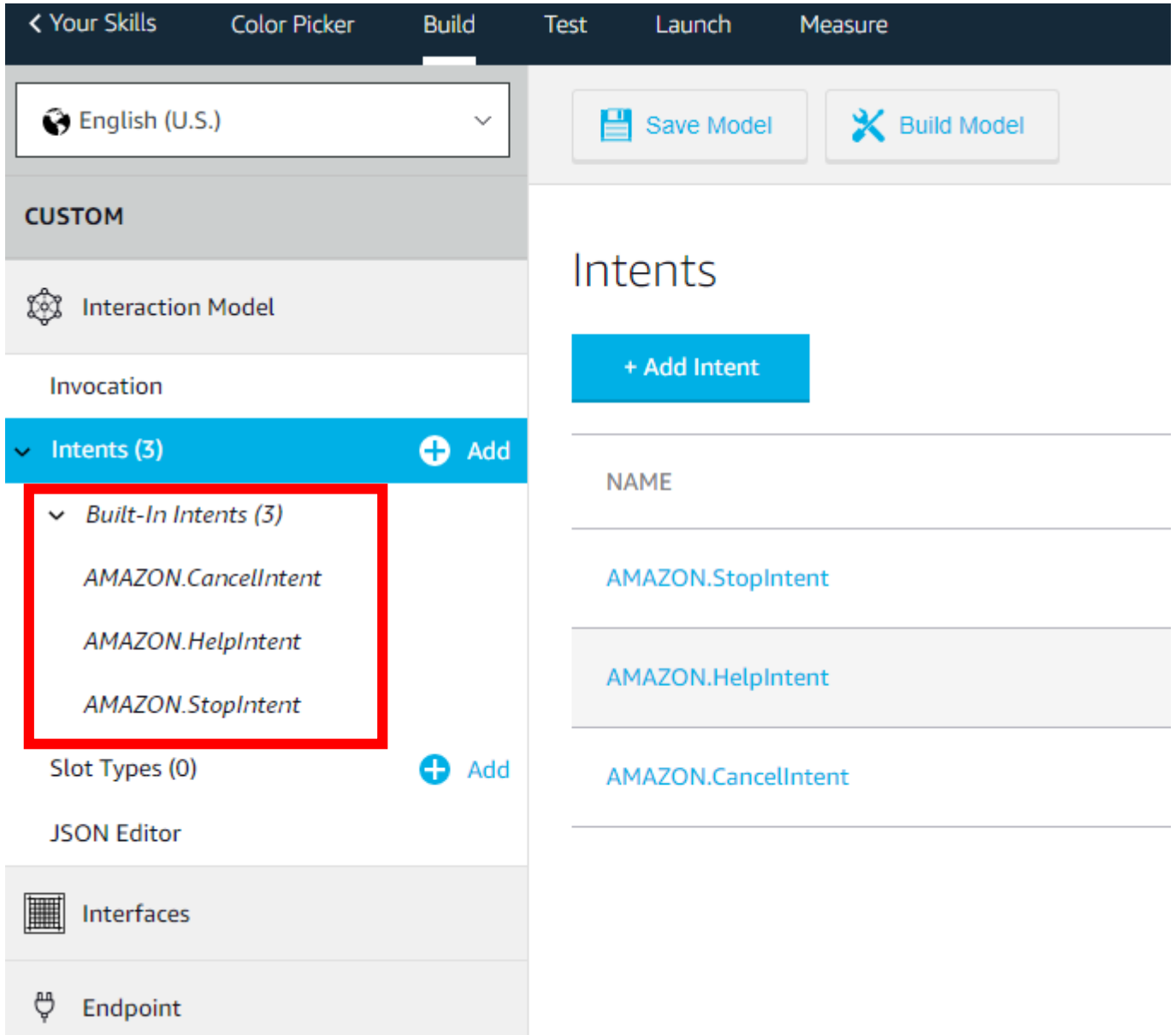
Step 2.8

- Create an invocation name. Let’s use the skill name **color picker**. Choose **Save Model** to continue to development for Color Picker.
  - Users will say, "Alexa, open **color picker**" to interact with your skill



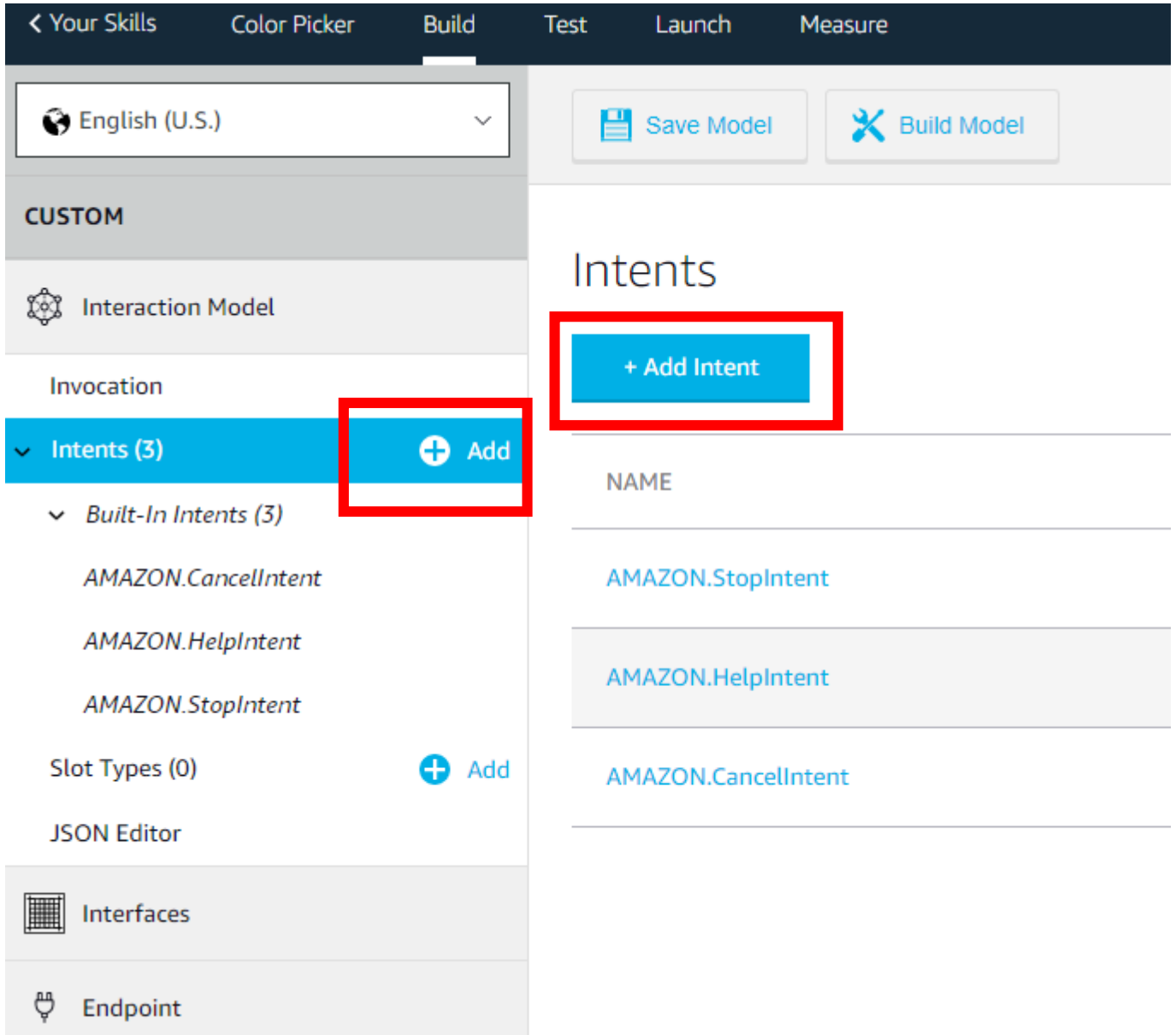
Step 2.9

- Review the three default intents. What are they?
  - Check the documents
  - https://developer.amazon.com/docs/custom-skills/standard-built-in-intents.html



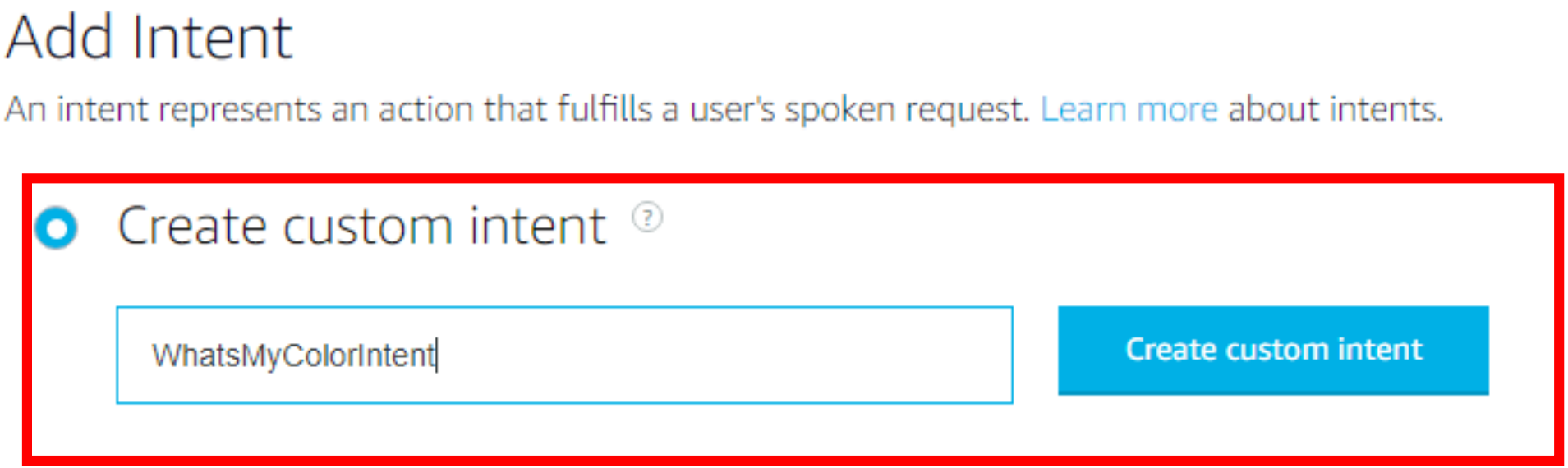
Step 2.10

- Let’s add a new intent.



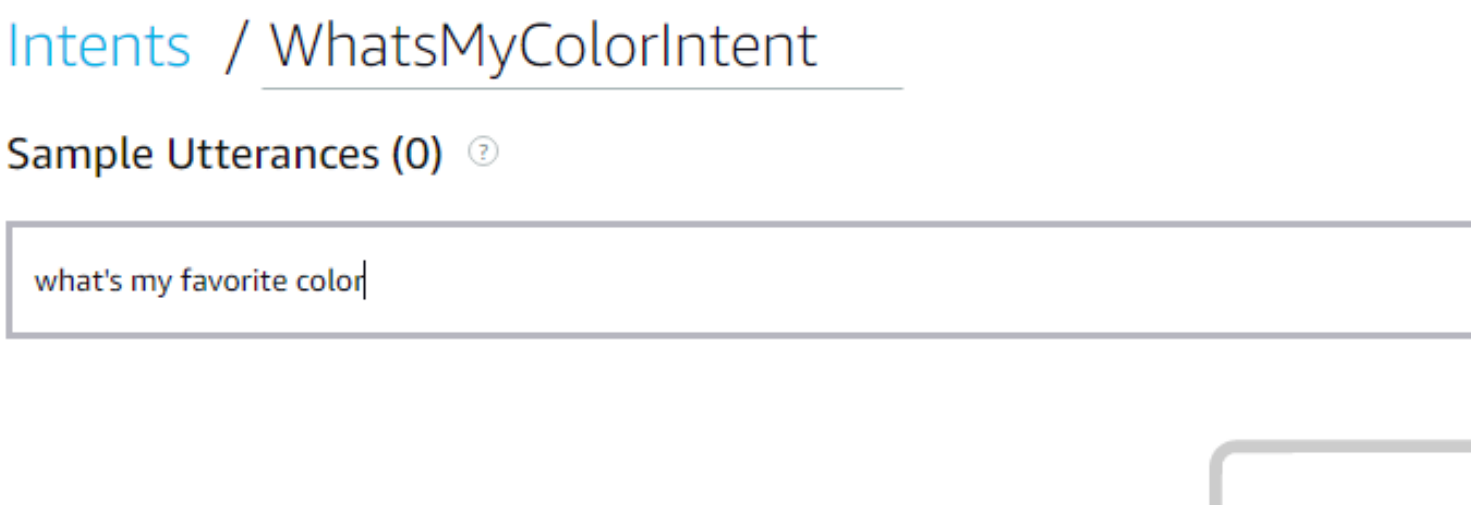
Step 2.11

- The first custom intent is **WhatsMyColorIntent**.
  - Case sensitive



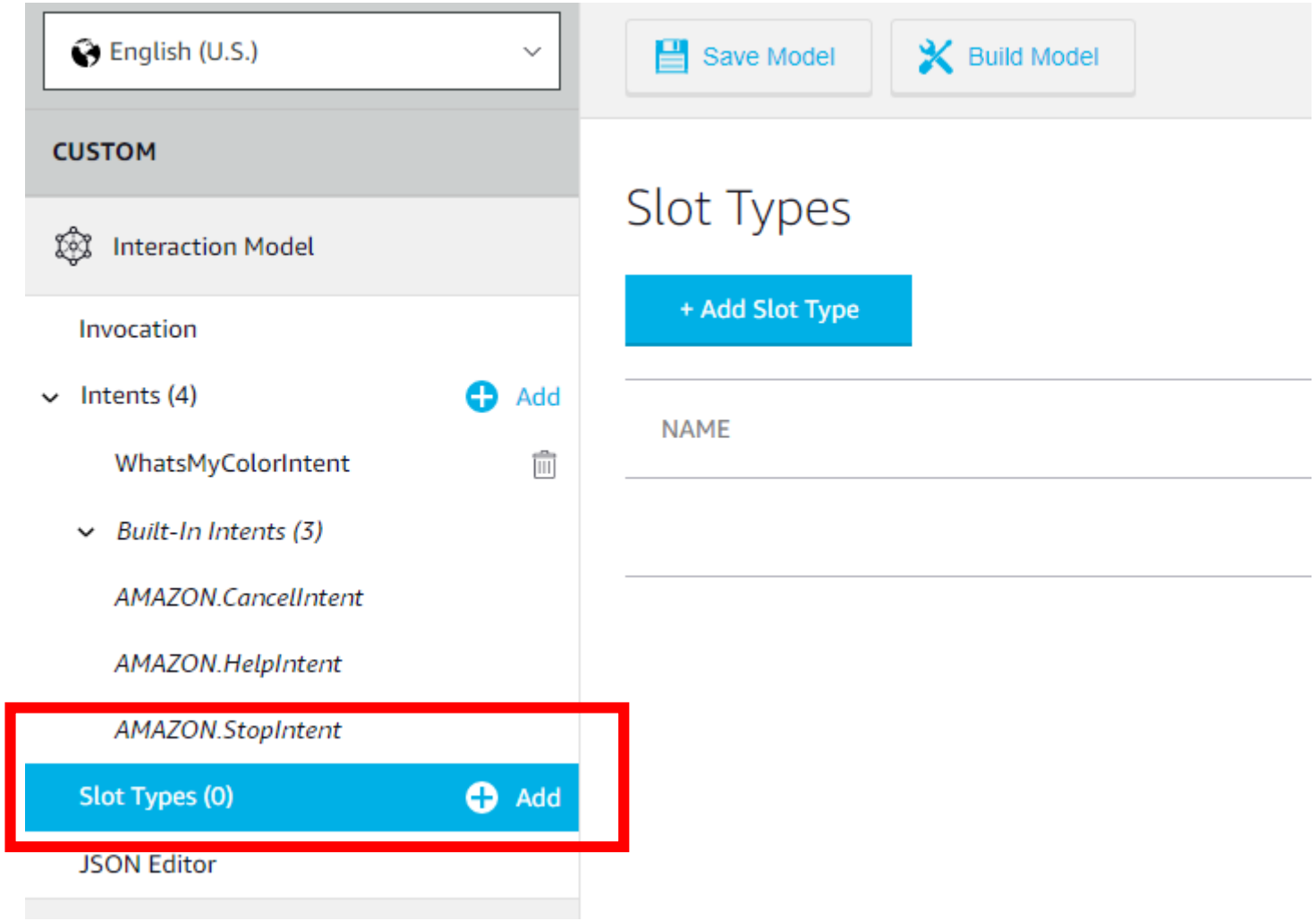
Step 2.12

- Add the following sample utterances one by one.
  - what's my favorite color
  - what is my favorite color
  - what's my color
  - what is my color
  - my color
  - my favorite color
  - get my color
  - get my favorite color
  - give me my favorite color
  - give me my color
  - what my color is
  - what my favorite color is
  - yes
  - yup
  - sure
  - yes please



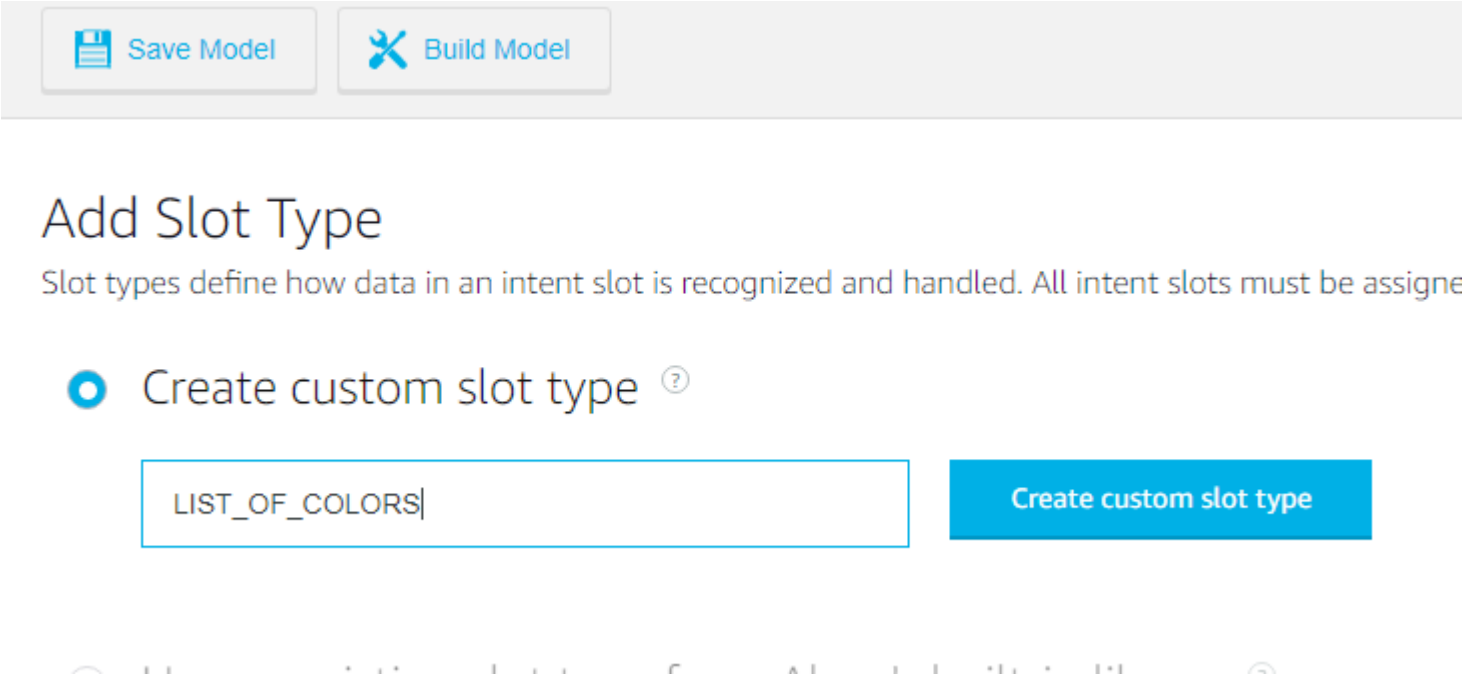
Step 2.13

- Let’s add a new **Slot Type**.



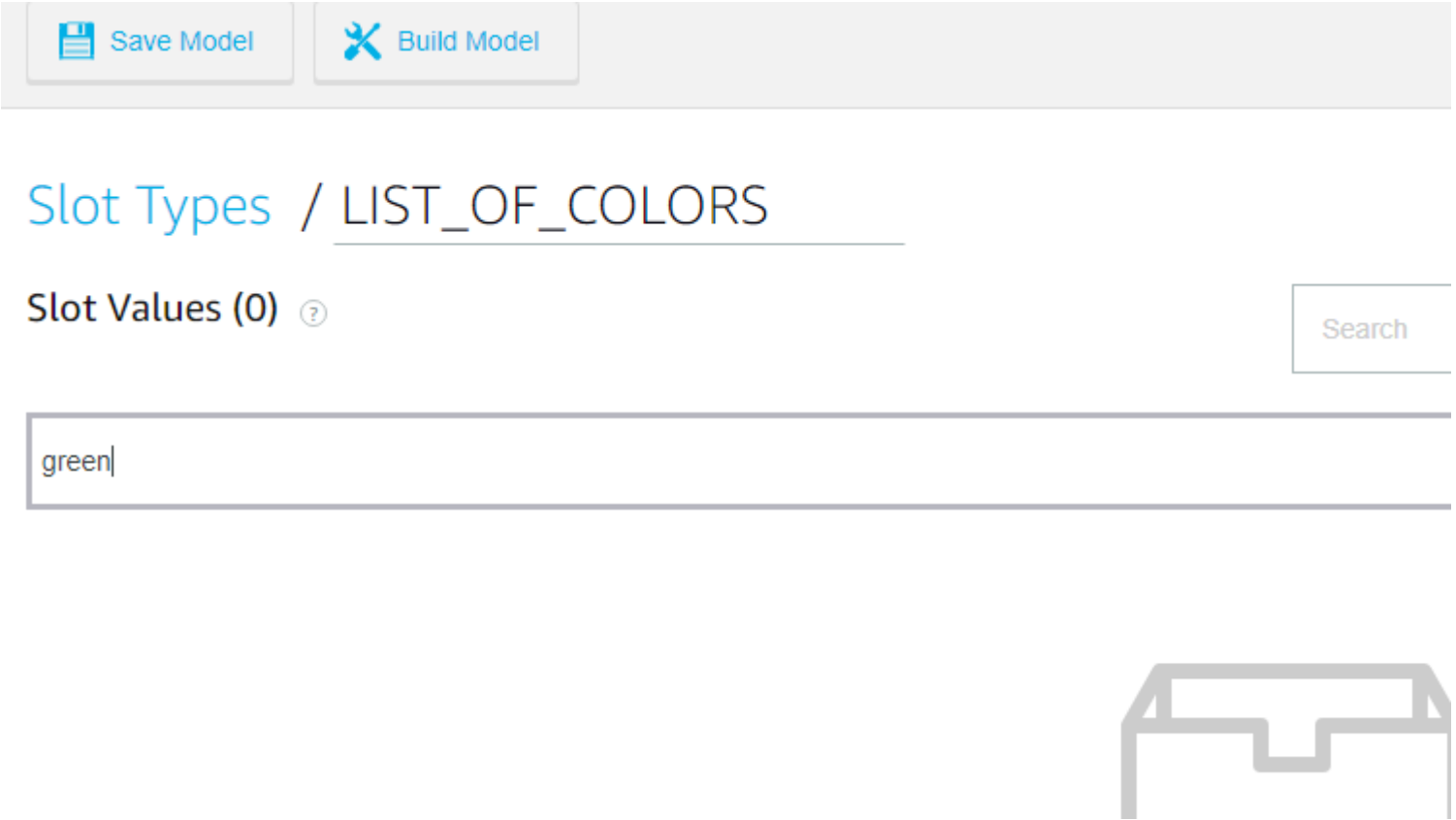
Step 2.14

- Name the **Slot Type** as LIST_OF_COLORS.



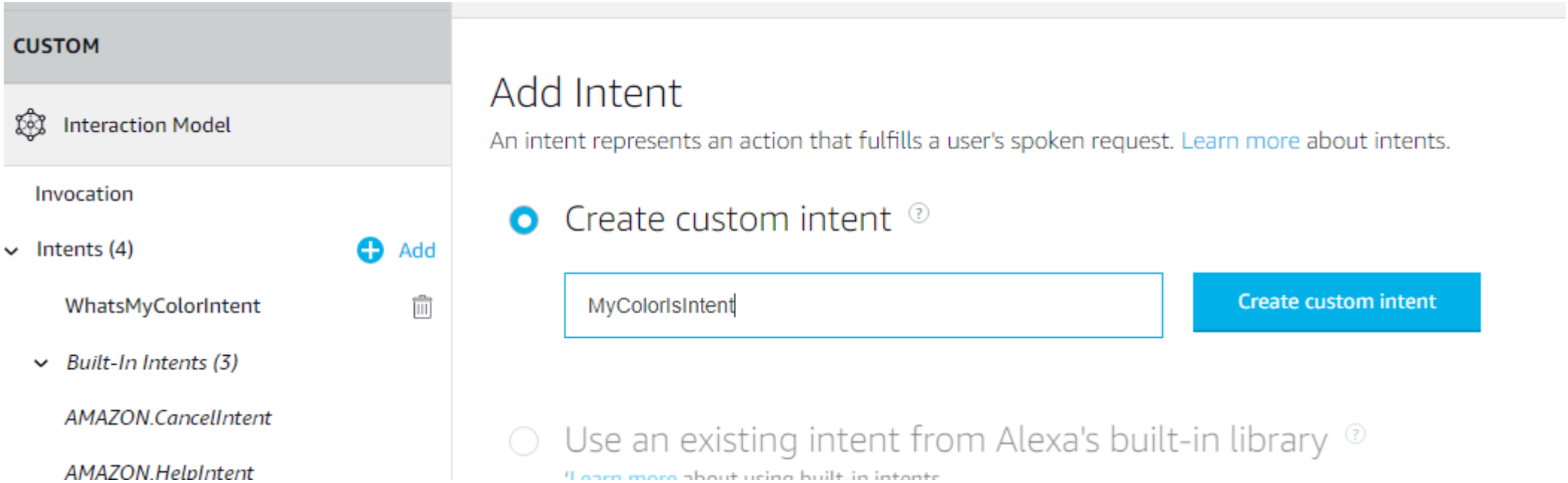
Step 2.15

- Add the following **Slot Values**.
  - green
  - red
  - blue
  - orange
  - gold
  - silver
  - yellow
  - black
  - white



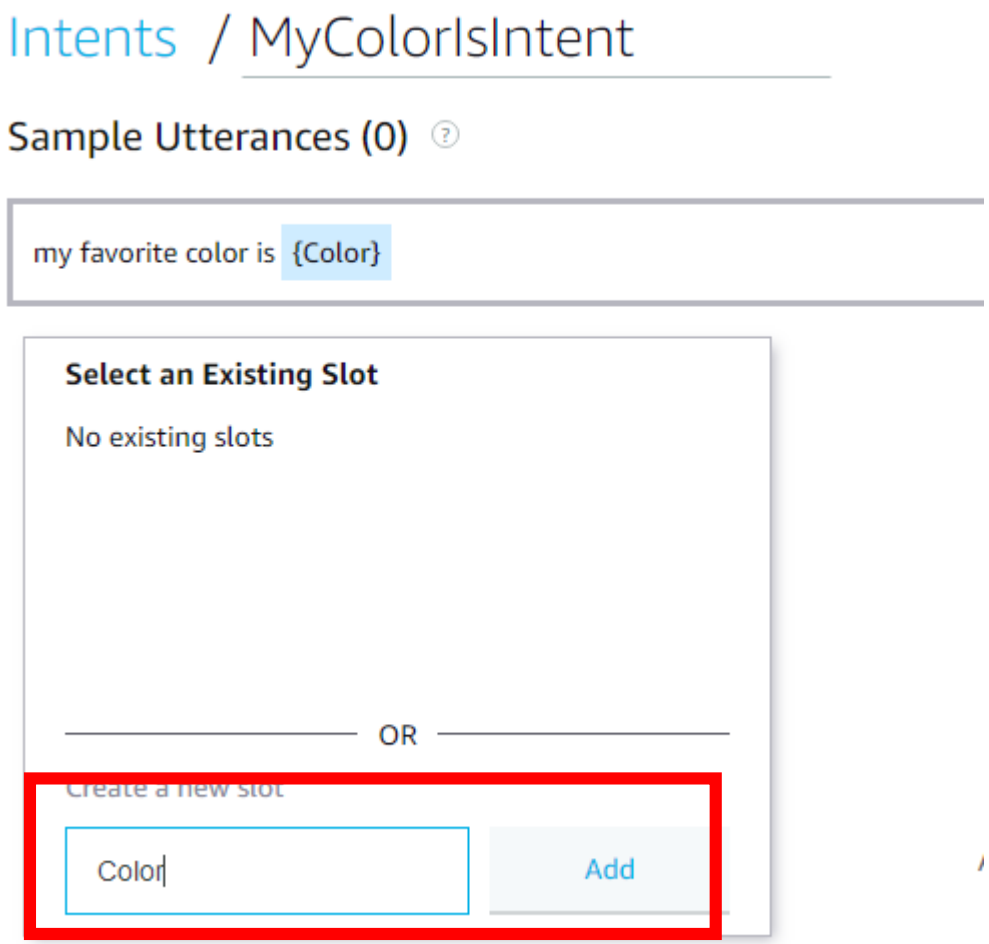
Step 2.16

- Add a second custom intent **MyColorIsIntent**



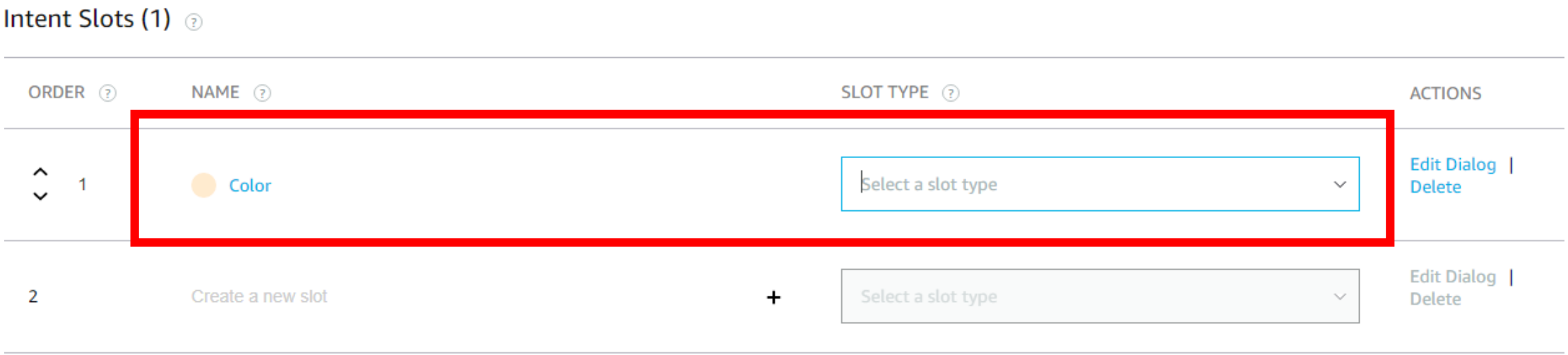
Step 2.17

- Add the following sample utterance.
  - my favorite color is {Color}
- What the difference between the following two utterances?
  - my favorite color is Color
  - my favorite color is {Color}



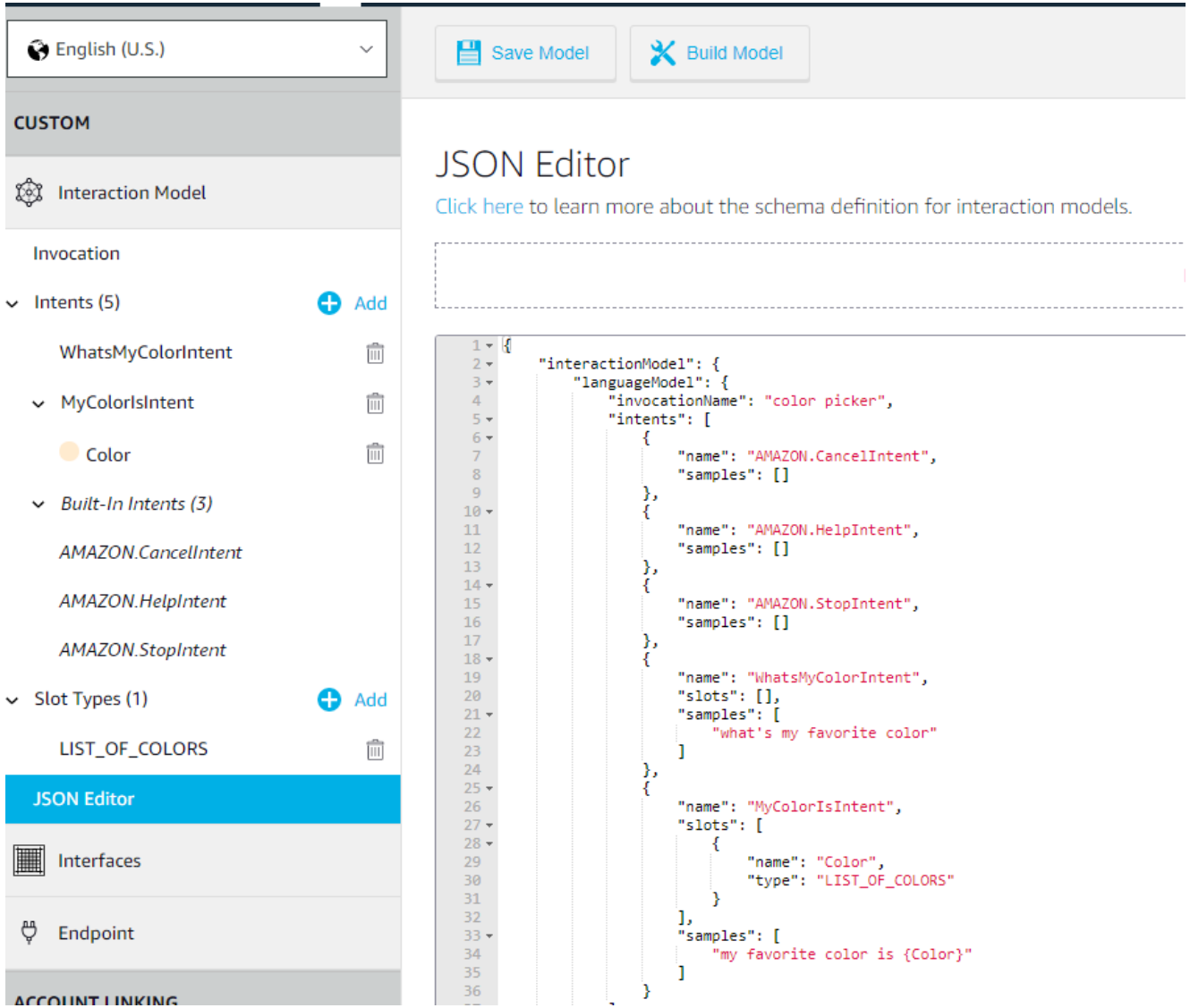
Step 2.18

- Choose the **Slot Type** for the new Slot **Color**.
  - Use **LIST_OF_COLORS** which we created in Step 2.13-2.15.



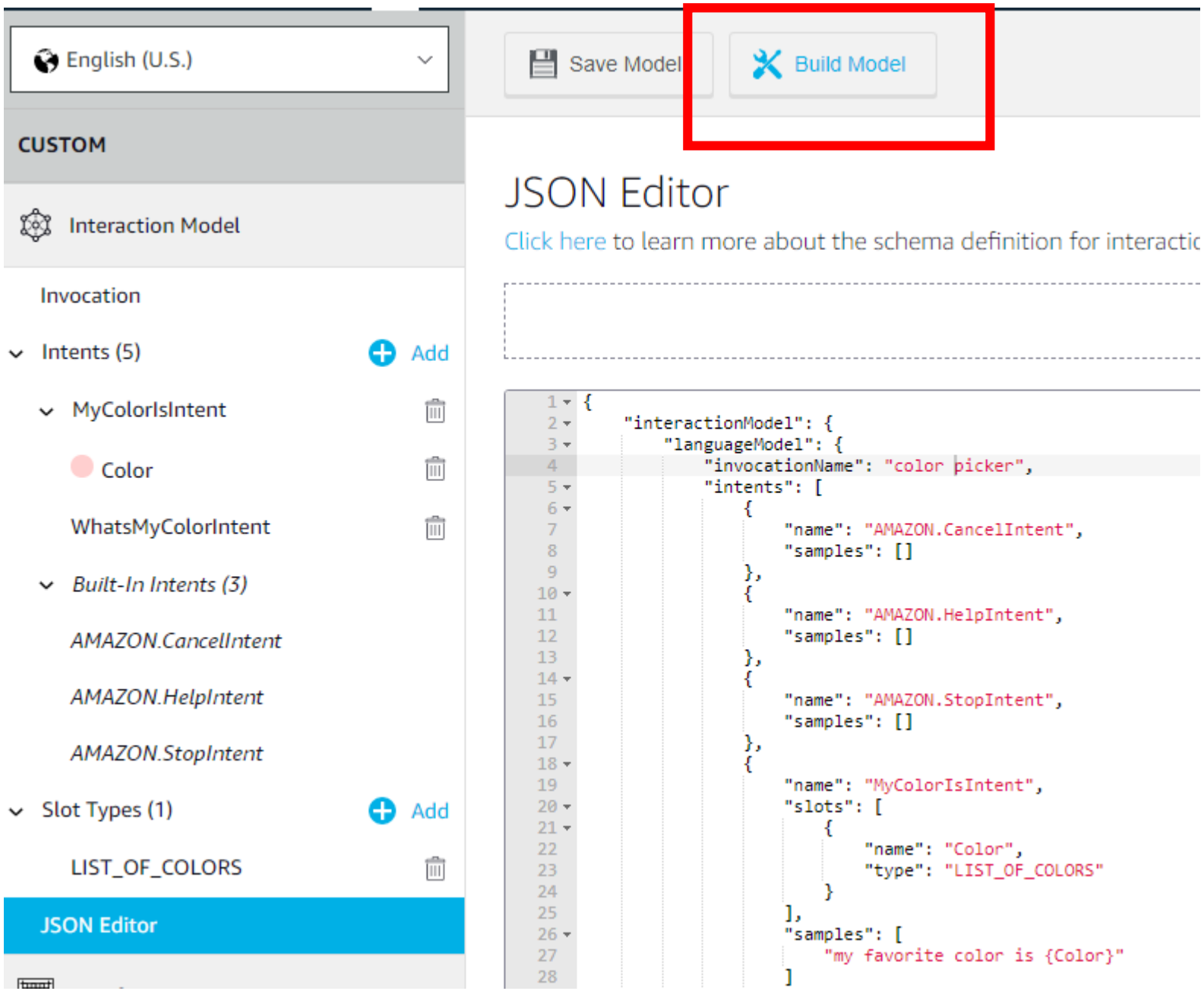
Step 2.19

- Review the resulting JSON object of the **Interaction Model**.
- Can you understand what the JSON object represents?



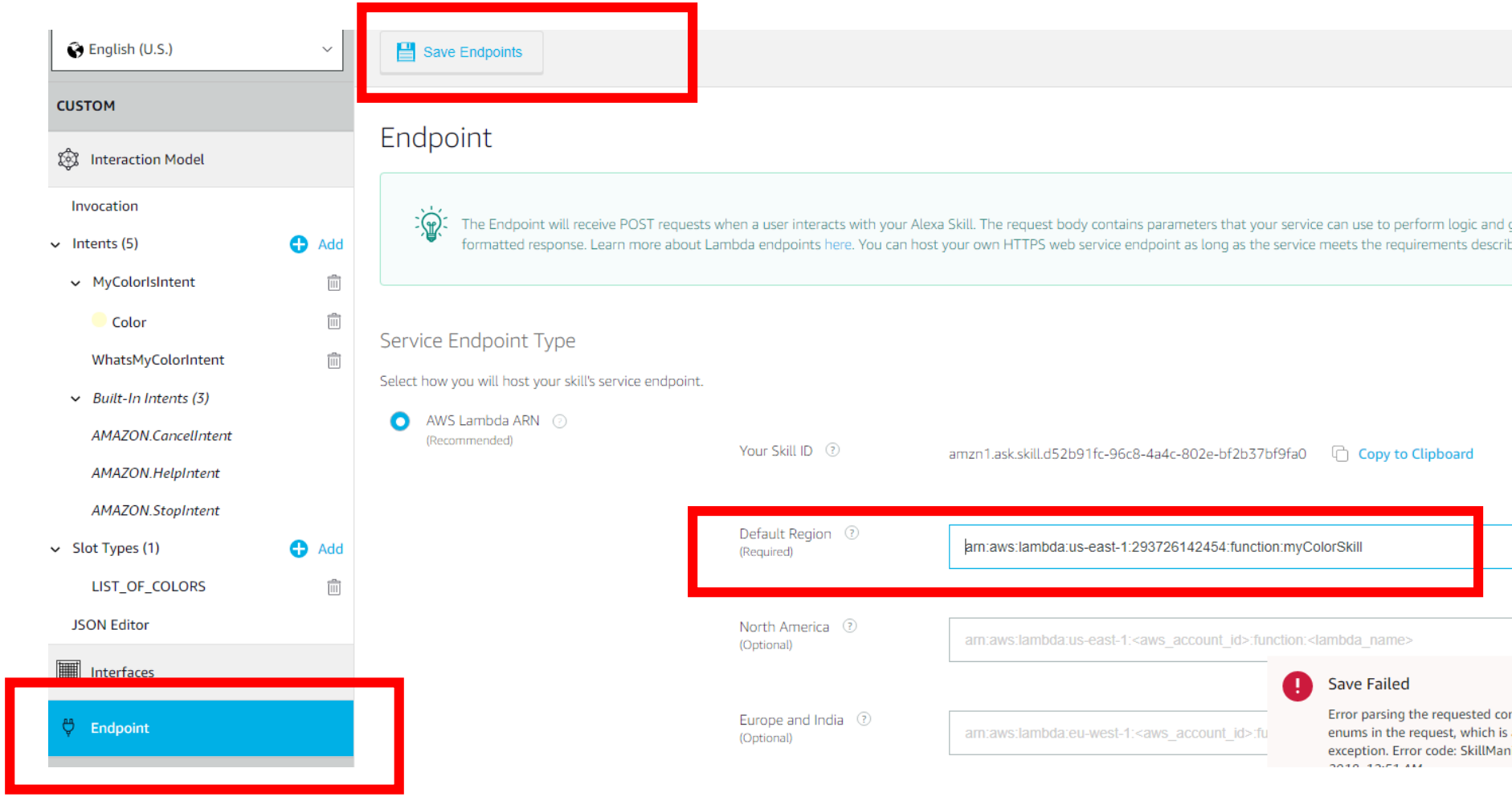
Step 2.20

- Click **Build Model**.



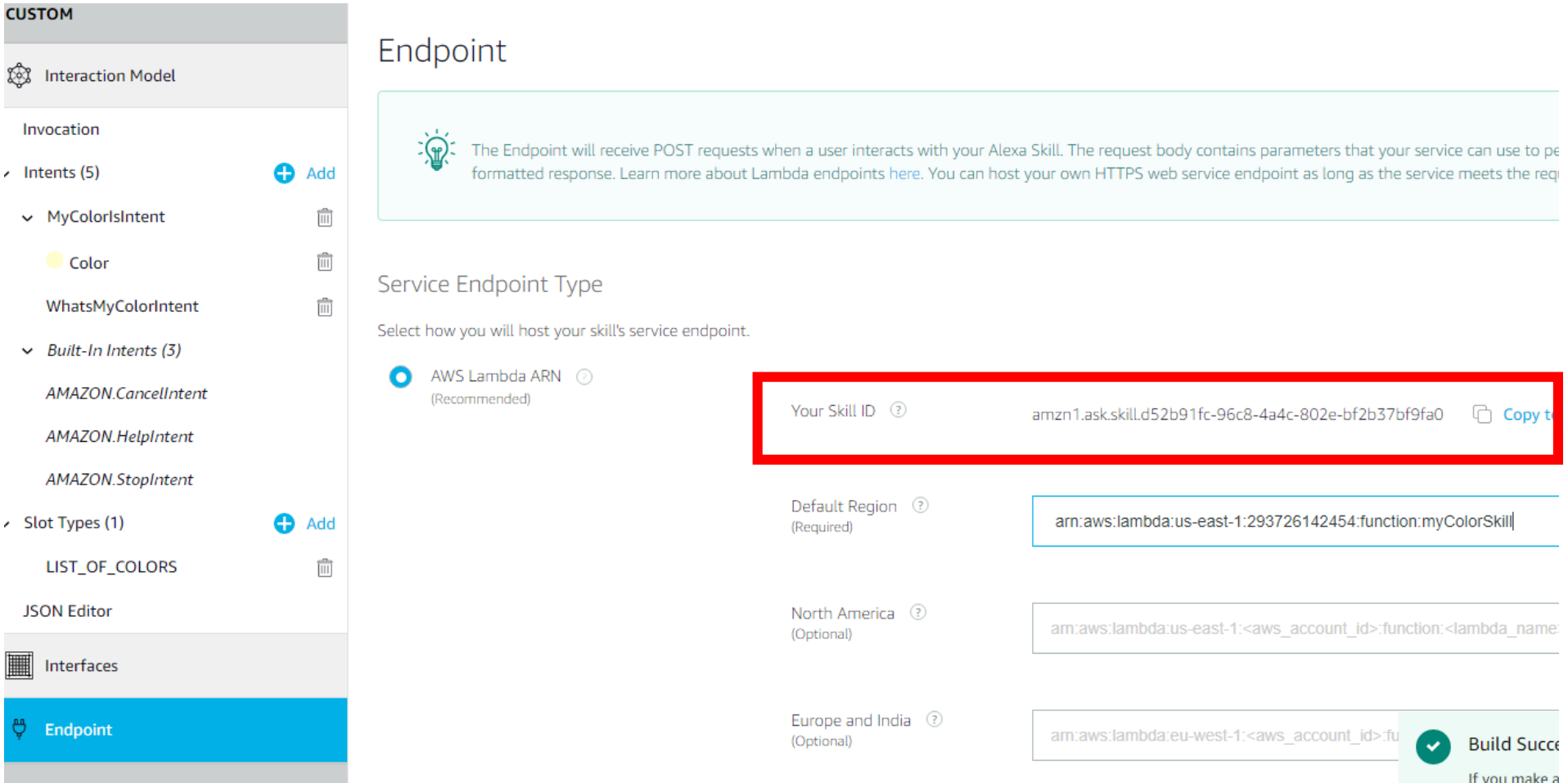
Step 2.21

- Configure the Endpoint. Copy ARN you found in Step 1.13 to **Default Region**. Click **Save Endpoint**.



Step 2.22

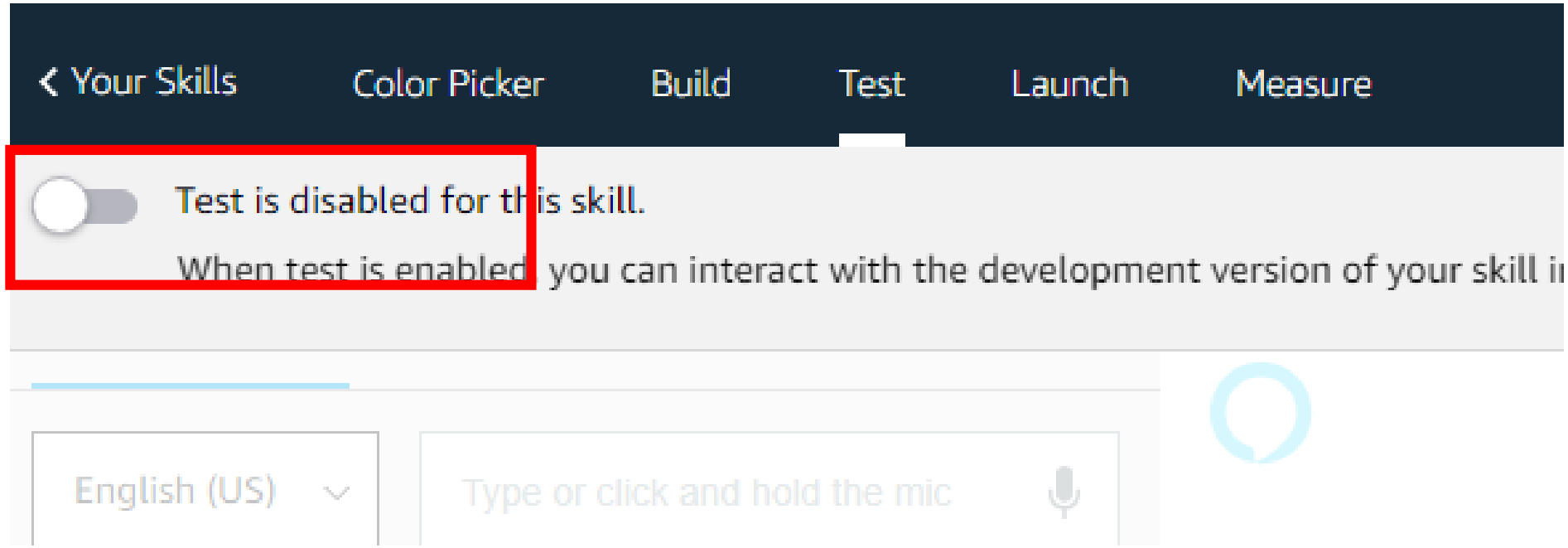
- Review the Endpoint page. What is your Skill ID?



Step 3: Test your skill using the Service Simulator

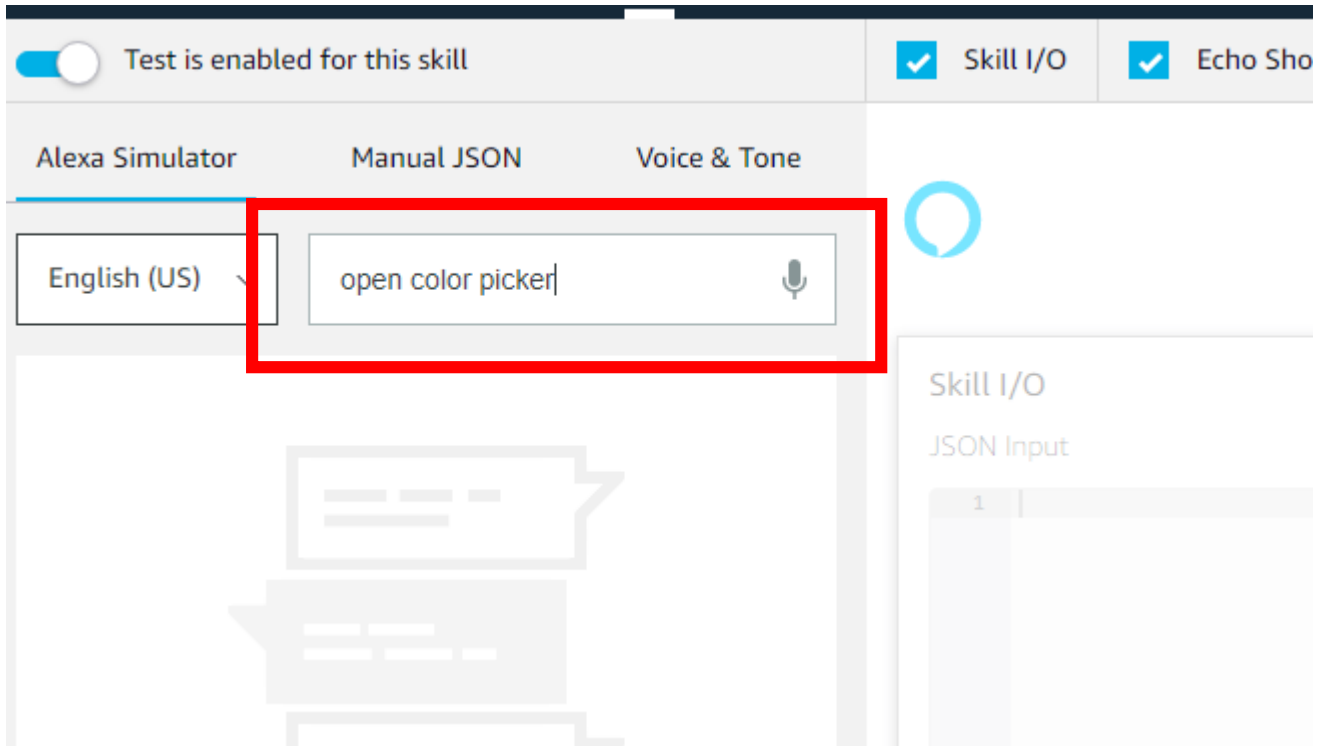
Step 3.1

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



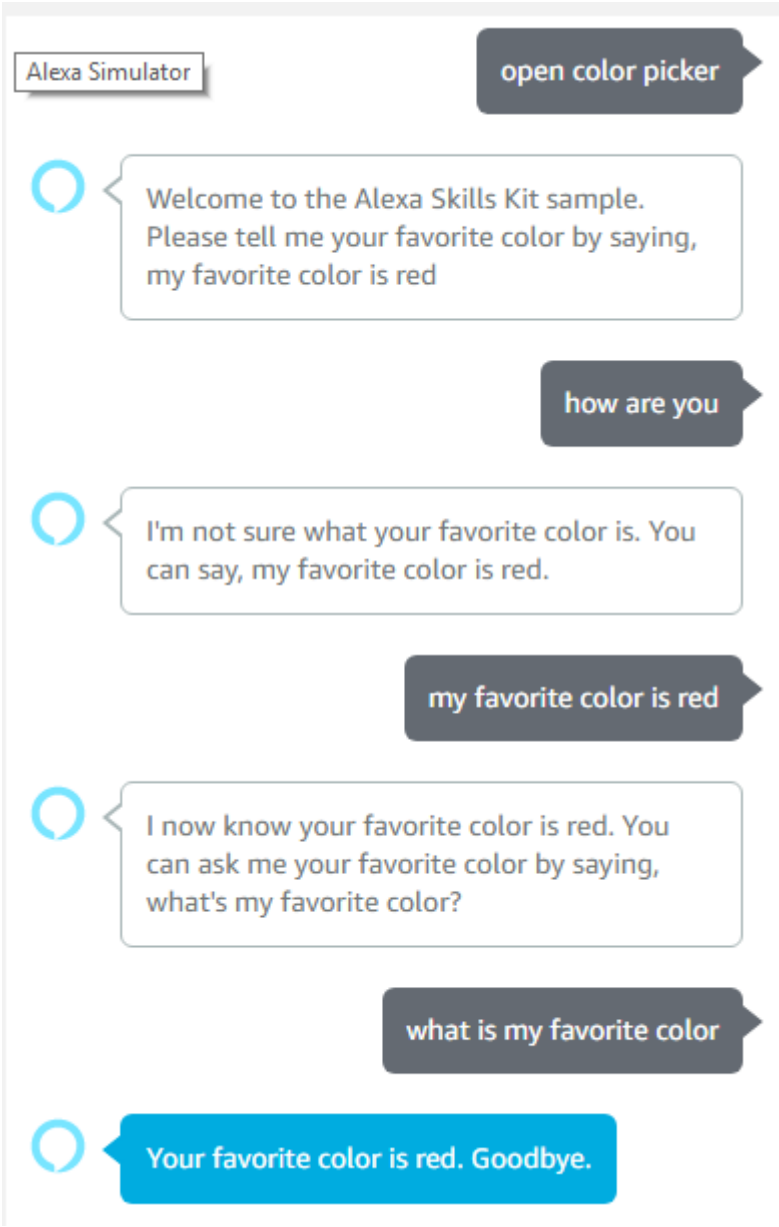
Step 3.2

- Type “open color picker”



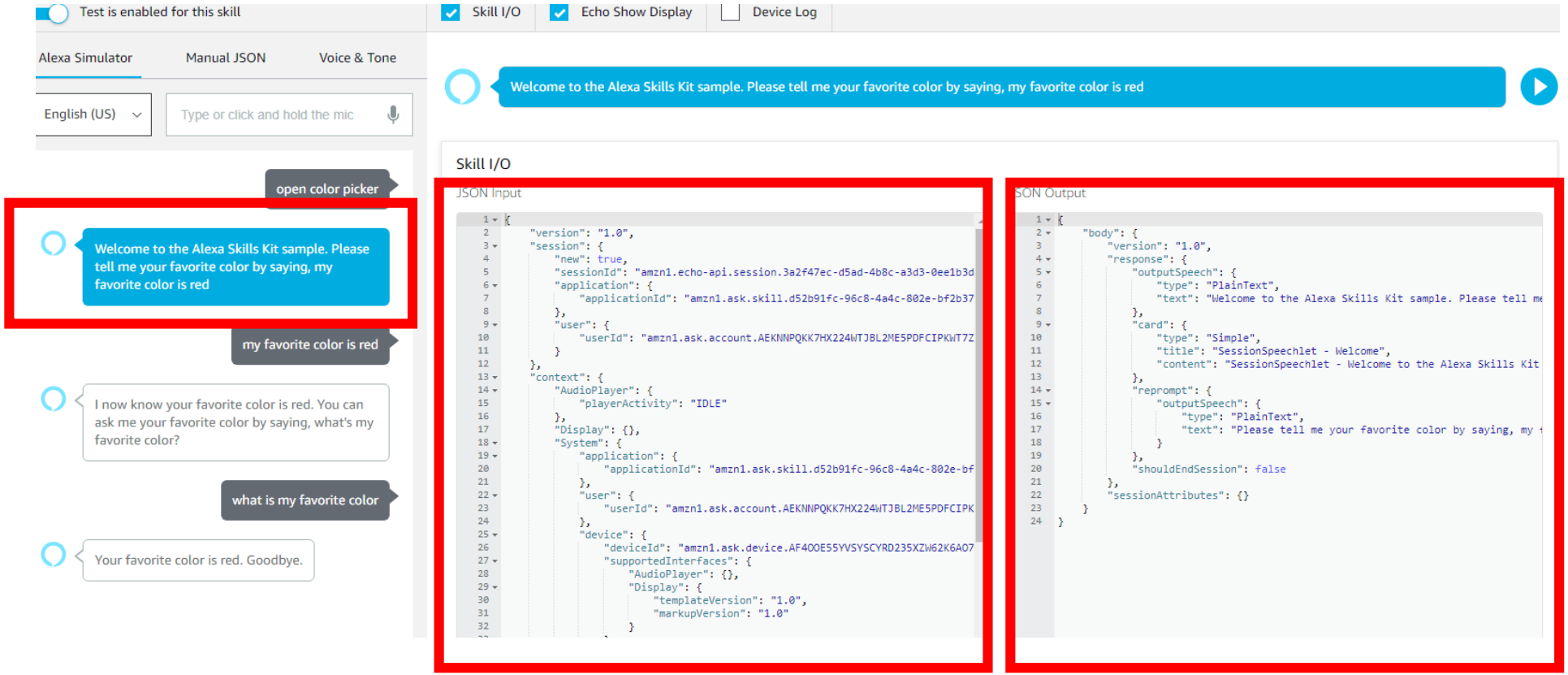
Step 3.3

- Reproduce the sample dialog.



Step 3.4

- Click the bot utterance and analyze the **JSON input** and **JSON output**.



Task 2 & 3

Please follow instructions in https://github.com/hao-fang/ee596_spr2018_lab1