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Alexa Python Tutorial

Build a voice experience in 5 minutes or less

Working with Alexa

Amazon's voice service and the brain behind millions of devices including Amazon Echo that enable customers to create a more personalized experience.

This tutorial provides a walkthrough of the skill-building process. You'll end with a simple but complete Python skill that can be used on any device with Alexa. This tutorial uses the [Alexa Skills Kit](#), [AWS Lambda](#), and [Python](#).

How fast can you build? Let us know by tweeting [@alexadevs](#).



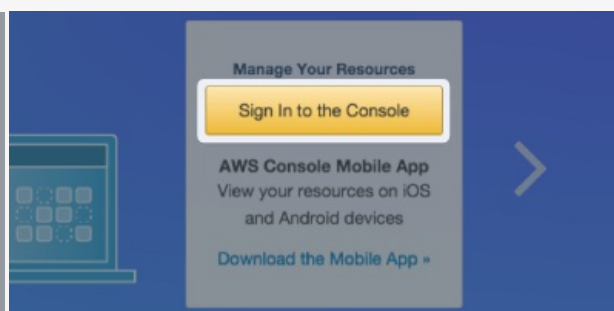
[@Alexadevs](#) Just completed Alexa Skill Tutorial under 5 minutes.

- [@Bill_Kos](#)

STEP 1

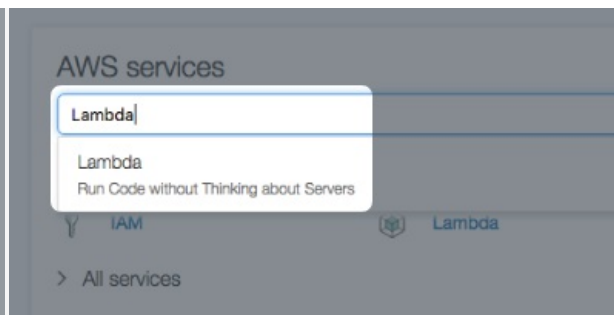
Sign in to Amazon Web Services (AWS) and create a function

1.



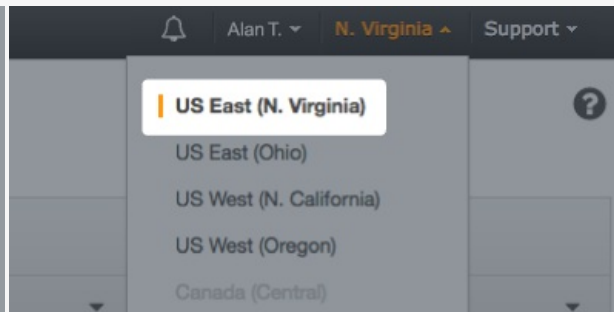
Log in to the [AWS Management Console](#). If you haven't done so already, you'll need to [create a free account](#).

2.



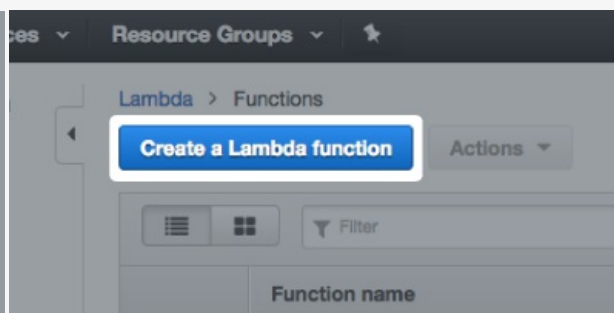
From the list of services, select **Lambda**.

3.



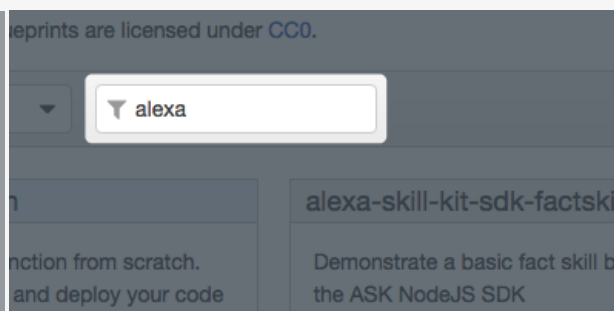
Click the region drop-down in the upper-right corner of the console and select **US East (N. Virginia)**, which is a supported region for Lambda functions used with the Alexa Skills Kit.

4.



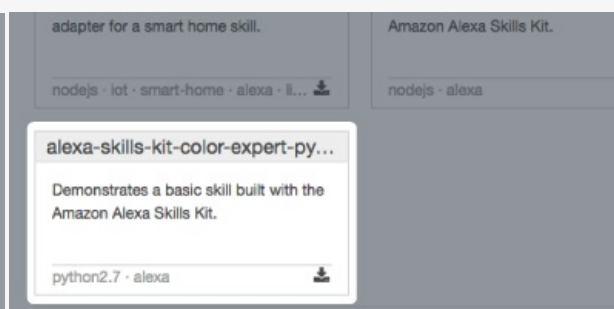
Choose **Create a Lambda Function** or **Get Started Now** to choose a blueprint for your new function.

5.



In the search filter box, type **alexa**.

6.



Select blueprint **alexa-skill-kit-color-expert-python**. Make sure to choose the blueprint that ends in **-python**.

A screenshot of the AWS Lambda console's 'Configure triggers' page. The 'Alexa Skills Kit' trigger is selected, indicated by a blue circle and an arrow pointing to the 'Submit' button. Below the trigger selection area, a message states: 'Choosing Submit will create a resource policy that allows the Amazon Alexa service to call your Lambda service to work with your Lambda function, go to the Alexa Developer portal. Learn more about the Lambda resource policy.'

Make sure the trigger is set to **Alexa Skills Kit**, then choose **Next**.

8.

he custom code you want to execute. [Learn more](#) about Lambda functions.

Name* myColorSkill

Description Demonstrates a basic skill built with the Amazon Alexa Skills Kit.

Runtime* Python 2.7

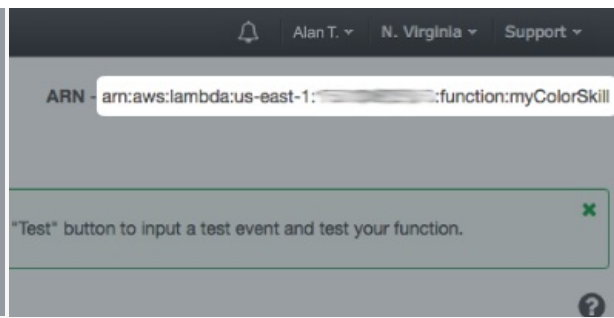
Name your function. We'll use **myColorSkill** for this walkthrough.

Make sure pop-ups are enabled. Then, under **Lambda function handler and role**

When the IAM role management console opens, choose **Allow** to go back to the

The role is now populated with lambda_basic_execution. Choose **Next** then choose

12.

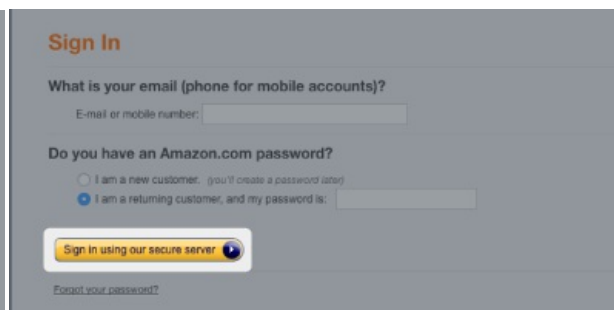


Copy the Amazon Resource Name (ARN) displayed in the upper-right corner of the console that starts with arn:aws:lambda....

STEP 2

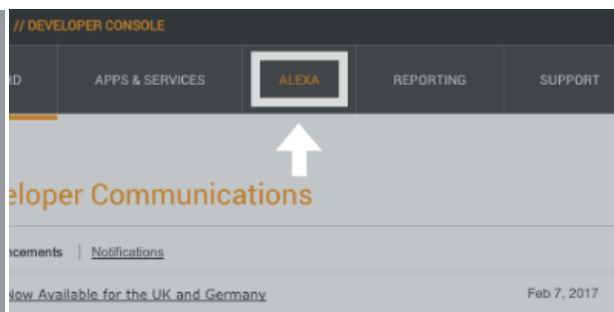
Use the Amazon developer portal to configure your skill

1.



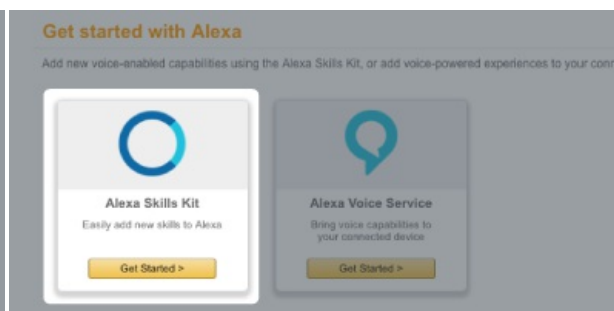
Sign in to the [Amazon developer portal](#). If you haven't done so already, you'll need to create a free account.

2.

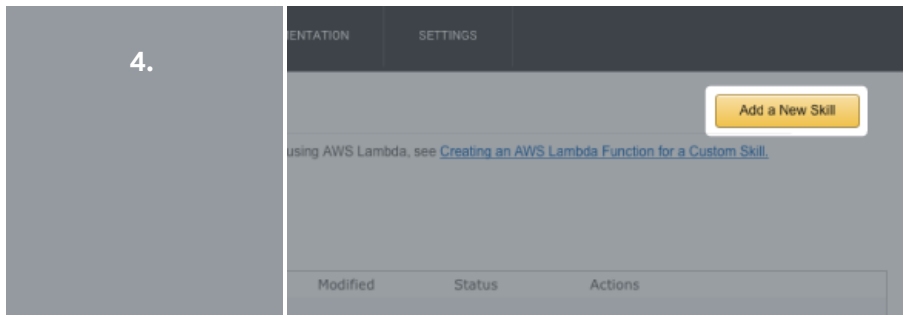


From the top navigation bar, select **Alexa**.

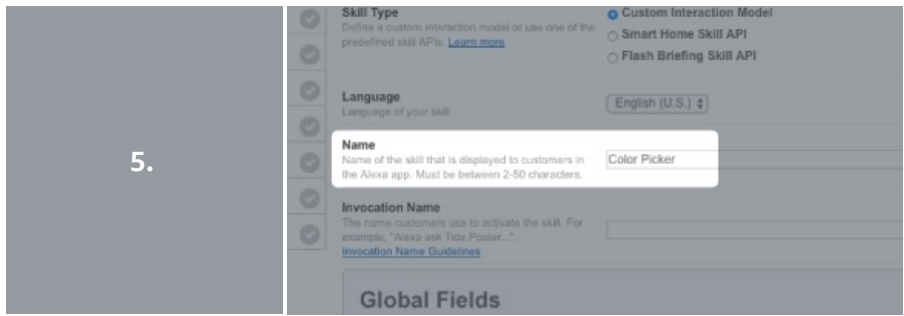
3.



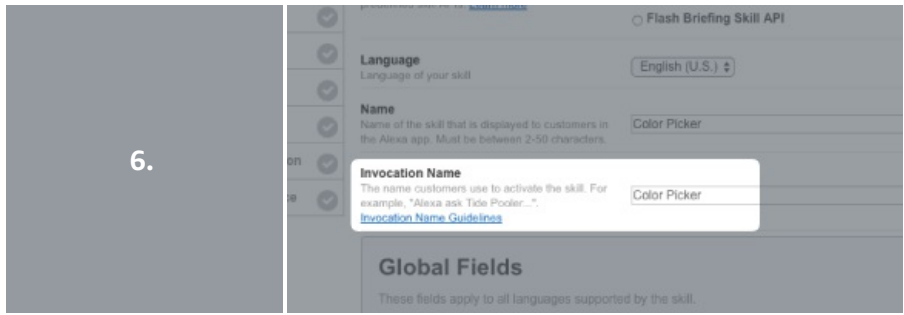
Under **Alexa Skills Kit**, choose **Get Started >**.



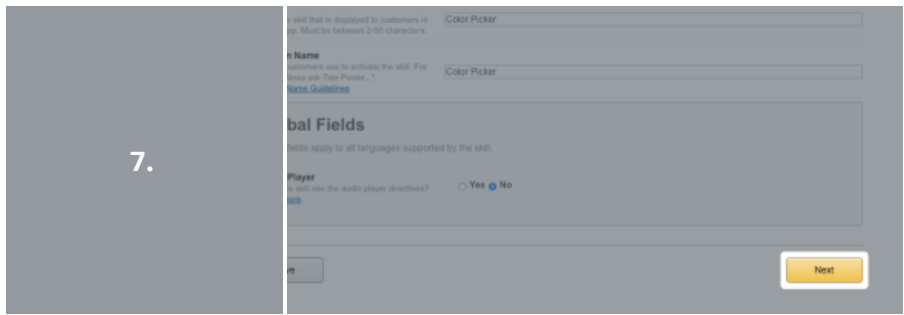
Choose Add a New Skill.



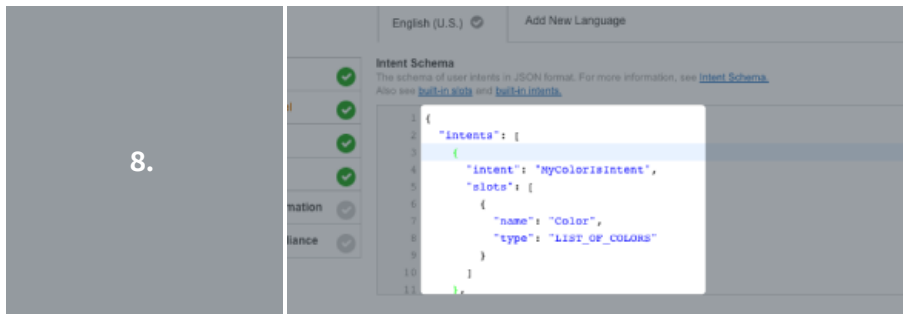
Name your skill. This is the name displayed to users in the Alexa app. For this example, we'll call itColor Picker.



Create an invocation name. This is the word or phrase that users will speak to activate the skill. For this walkthrough, we'll use the skill name Color Picker (case-sensitive). Users will say, "Alexa, open Color Picker" to interact with your skill. Choose Save to continue to development for Color Picker.



Choose Next to continue to development for Color Picker.



In the Intent Schema box, paste the following JSON code.

{

```

"intents": [
  {
    "intent": "MyColorIsIntent",
    "slots": [
      {
        "name": "Color",
        "type": "LIST_OF_COLORS"
      }
    ]
  },
  {
    "intent": "WhatsMyColorIntent"
  },
  {
    "intent": "AMAZON.HelpIntent"
  }
]
}

```

9.

Custom Slot Types (Optional)
Custom slot types to be referenced by the Intent Schema and Sample Utterances. For general information, see [Custom Slot Types](#).

Enter Type

TYPE

Enter Values
Values must be line-separated

1

Now we will add a Custom Slot Type.

10.

Adding slot type

Enter Type

LIST_OF_COLORS

Enter Values
Values must be line-separated

1 green
 2 red
 3 blue
 4 orange
 5 gold
 6 silver
 7 yellow
 8 black
 9 white

Enter type LIST_OF_COLORS, and enter the following values.

green
red
blue
orange
gold
silver
yellow
black
white

11.

Adding slot type

Enter Type

LIST_OF_COLORS

Enter Values
Values must be line-separated

1 green
2 red
3 blue
4 orange
5 gold
6 silver
7 yellow
8 black
9 white

Enter additional values if you'd like, and then choose Add.

12.

Sample Utterances
These are what people say to interact with your skill. Type or paste in all the ways that people can invoke the intent. [Learn more](#)

Up to 3 of these will be used as Example Phrases, which are hints to users.

- 1 WhatsMyColorIntent get my color
- 2 WhatsMyColorIntent get my favorite color
- 3 WhatsMyColorIntent give me my favorite color
- 4 WhatsMyColorIntent give me my color
- 5 WhatsMyColorIntent what my color is
- 6 WhatsMyColorIntent what my favorite color is
- 7 WhatsMyColorIntent yes
- 8 WhatsMyColorIntent yup
- 9 WhatsMyColorIntent sure
- 10 WhatsMyColorIntent yes please
- 11 MyColorIsIntent my favorite color is {Color}

Under **Sample Utterances**, enter all the phrases that you think users might say to interact with your skill. The more phrases you enter, the better the results. For our example, paste the following:

```
WhatsMyColorIntent what's my favorite color
WhatsMyColorIntent what is my favorite color
WhatsMyColorIntent what's my color
WhatsMyColorIntent what is my color
WhatsMyColorIntent my color
WhatsMyColorIntent my favorite color
WhatsMyColorIntent get my color
WhatsMyColorIntent get my favorite color
WhatsMyColorIntent give me my favorite color
WhatsMyColorIntent give me my color
WhatsMyColorIntent what my color is
WhatsMyColorIntent what my favorite color is
WhatsMyColorIntent yes
WhatsMyColorIntent yup
WhatsMyColorIntent sure
WhatsMyColorIntent yes please
MyColorIsIntent my favorite color is {Color}
```

13.

Next

Choose **Next** and wait until the interaction model finishes loading, in no more than a few seconds.

14.

Endpoint

Service Endpoint Type: **AWS Lambda ARN (Amazon Resource Name)** ☐ HTTPS

Recommended
AWS Lambda is a serverless compute service that runs your code in response to events and automatically manages the underlying compute resources for you.
[Learn more about AWS Lambda](#)
[How to integrate AWS Lambda with Alexa](#)

Pick a geographical region that is closest to your target customers: **North America** ☒ ☐ Europe

North America
arn:aws:lambda:us-east-1:123456789012:function:my-function

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

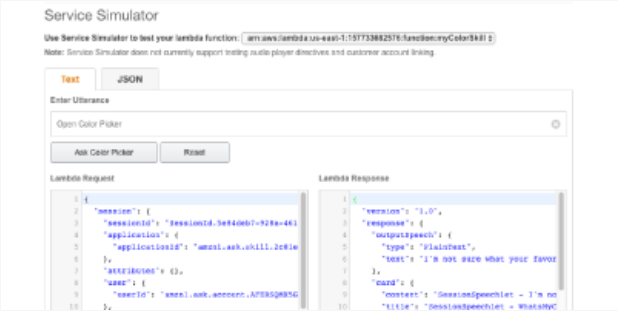
Select the Endpoint **AWS Lambda ARN** then paste your ARN code from step 1-14. Select **North America** as your region, and for **Account Linking** select **No**, then choose **Next**.

STEP 3

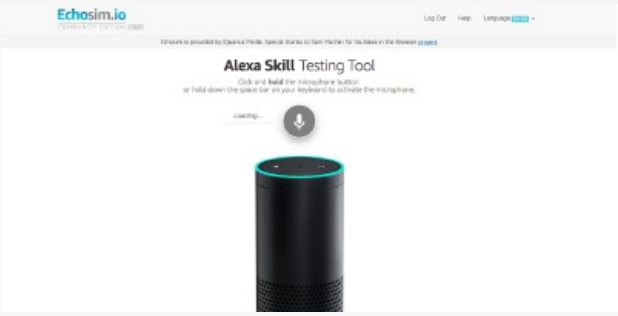
Test your skill one of three ways



Test your skill on your Amazon Echo, Echo Dot, or any Alexa device by saying, "Alexa, open Color Picker."



Use the Service Simulator from the Test step of Color Picker development. Try entering **Open Color Picker** or **My favorite color is red** to see how Alexa responds.



Try the Echo Simulator Community Edition at Echosim.io. Simply click and hold the microphone icon and speak your commands.

Success!

Congratulations! You've created an Alexa skill. Now build a skill that's all your own.

With the [Alexa Skills Kit \(ASK\)](#), designers, developers, and brands can build engaging skills and reach millions of customers. ASK is a collection of self-service APIs, tools, documentation, and code samples that makes it fast and easy for you to add skills to Alexa. With ASK, you can leverage Amazon's knowledge and pioneering work in the field of voice design.

Start building your next skill today.



BUILD YOUR SKILL NOW

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