



ADD THE INTERACTIONS SERVICE

Creating and Deploying an Amazon Lex Chatbot

The Amplify interactions feature will leverage [Amazon Lex](#) to create a chatbot - this is a collection of intents, slots and types to retrieve an order for a customer.

To begin, let's add an interaction feature via the amplify add interactions command:

```
# Add Interactions capability via Amazon Lex
amplify add interactions
```

```
hoog:~/environment/andy-pizza-shop (master) $ amplify add interactions
Using service: Lex, provided by: awscloudformation
Adding interactions would also add the Auth category to the project if not already added.
Successfully updated auth resource locally.

Welcome to the Amazon Lex chatbot wizard
You will be asked a series of questions to help determine how to best construct your chatbot.

> Provide a friendly resource name that will be used to label this category in the project: (lexa812ff4a) █
```

Name the resource `andyPizzaOrder` and select **Start from Scratch**

```
Welcome to the Amazon Lex chatbot wizard
You will be asked a series of questions to help determine how to best construct your chatbot.

> Provide a friendly resource name that will be used to label this category in the project: andyPizzaOrder
> Would you like to start with a sample chatbot, import a chatbot, or start from scratch?
  Start with a sample
> Start from scratch █
```

Enter the following information to configure the bot settings:

- Name for the bot: `AndyPizzaOrder`
- Output voice: Female
- Session timeout: 30
- COPPA: No

```
Welcome to the Amazon Lex chatbot wizard
You will be asked a series of questions to help determine how to best construct your chatbot.

> Provide a friendly resource name that will be used to label this category in the project: andyPizzaOrder
> Would you like to start with a sample chatbot, import a chatbot, or start from scratch? Start from scratch
> Enter a name for your bot: AndyPizzaOrder
> Choose an output voice: Female
> After how long should the session timeout (in minutes)? 30
> Please indicate if your use of this bot is subject to the Children's Online Privacy Protection Act (COPPA).
Learn more: https://www.ftc.gov/tips-advice/business-center/guidance/complying-coppa-frequently-asked-questions No
```

Next, add an **intent** called `OrderPizza` and include 4 **utterances**:

- `i'd like a pizza`
- `i'd like a {size} pizza`
- `i'd like a {specialty} pizza`
- `i'd like a {size} {specialty} pizza`



Tip

An **intent** is an objective that you want your user to achieve. An **utterance** is a hint of what the user will say to achieve that objective. The words with the braces are called **slots** - think of these as parameters that you need to capture from your end user to achieve their objective.

```
First create an intent for your new chatbot. An intent represents an action that the user wants to perform.

> Give a unique name for the new intent: OrderPizza
> Enter a sample utterance (spoken or typed phrase that invokes your intent. e.g. Book a hotel) I'd like a pizza
> Would you like to add another utterance? Yes
> Enter a sample utterance (spoken or typed phrase that invokes your intent. e.g. Book a hotel) I'd like a {size} pizza
> Would you like to add another utterance? Yes
> Enter a sample utterance (spoken or typed phrase that invokes your intent. e.g. Book a hotel) I'd like a {specialty} pizza
> Would you like to add another utterance? Yes
> Enter a sample utterance (spoken or typed phrase that invokes your intent. e.g. Book a hotel) I'd like a {size} {specialty} pizza
> Would you like to add another utterance? No
```

Next, add the following **slots**:

- Slot Name: `size`
- Slot Type: Create a new slot type
- Slot Type Name: `PizzaSize`
- Slot Description: `The size of the pizza (Small, Medium, Large)`
- Slot Value: `small`
- Slot Value: `medium`
- Slot Value: `large`
- Enter Prompt: `What size of pizza?`
- Slot Required: Yes

```
Now, add a slot to your intent. A slot is data the user must provide to fulfill the intent.
> Enter a name for your slot (e.g. Location) size
> Would you like to choose an Amazon built-in slot type, a slot type you've already made, or create a new slot type? Create a new slot type
> What would you like to name your slot type? PizzaSize
> Give a description of your slot type: The size of the Pizza (small, medium, large)
> Add a possible value for your slot: small
> Add another slot value? Yes
> Add a possible value for your slot: medium
> Add another slot value? Yes
> Add a possible value for your slot: large
> Add another slot value? No
> Enter a prompt for your slot (e.g. What city?) What size of pizza?
> Should this slot be required? Yes
```

Choose to add another **slot**:

- Slot Name: `specialty`
- Slot Type: Create a new slot type
- Slot Type Name: `PizzaSpecialty`
- Slot Description: `The type of pizza (Ultimate, etc)`
- Slot Value: `ultimate`
- Slot Value: `supreme`
- Slot Value: `veggie`
- Slot Value: `meat lovers`
- Enter Prompt: `What type of pizza?`
- Slot Required: No

```

Now, add a slot to your intent. A slot is data the user must provide to fulfill the intent.

? Enter a name for your slot (e.g. Location) size
? Would you like to choose an Amazon built-in slot type, a slot type you've already made, or create a new slot type? Create a new slot type
? What would you like to name your slot type? PizzaSize
? Give a description of your slot type: The size of the Pizza (small, medium, large)
? Add a possible value for your slot: small
? Add another slot value? Yes
? Add a possible value for your slot: medium
? Add another slot value? Yes
? Add a possible value for your slot: large
? Add another slot value? No
? Enter a prompt for your slot (e.g. What city?) What size of pizza?
? Should this slot be required? Yes
? Would you like to add another slot? Yes
? Enter a name for your slot (e.g. Location) specialty
? Would you like to choose an Amazon built-in slot type, a slot type you've already made, or create a new slot type? Create a new slot type
? What would you like to name your slot type? PizzaSpecialty
? Give a description of your slot type: The type of pizza (Ultimate, etc)
? Add a possible value for your slot: ultimate
? Add another slot value? Yes
? Add a possible value for your slot: supreme
? Add another slot value? Yes
? Add a possible value for your slot: veggie
? Add another slot value? Yes
? Add a possible value for your slot: meat lovers
? Add another slot value? No
? Enter a prompt for your slot (e.g. What city?) What type of pizza?
? Should this slot be required? No

```

Choose **not to add confirmation**, and then select **Return parameters to client**. Select **No** when asked to add another intent and your configuration is complete.

```

? Should this slot be required? No
? Would you like to add another slot? No
? Would you like to add a confirmation prompt to your intent? No
? How would you like the intent to be fulfilled? Return parameters to client
? Would you like to create another intent? No
Successfully added resource
hoog:~/environment/andy-pizza-shop (master) $

```

Tip

The amplify cli is very helpful in putting together a basic Chat Bot. However, this process can get very tedious for more complex chat bots. Instead of answering these questions one by one, you can edit the chatbot parameters by opening the file:

amplify\backend\interactions\andyPizzaOrder\lex-params.json

```
[
  {
    "resourceName": "andyPizzaOrder",
    "botName": "AndyPizzaOrder",
    "intents": [
      {
        "slots": [
          {
            "name": "size",
            "type": "PizzaSize",
            "prompt": "What size of pizza?",
            "required": true,
            "customType": true
          },
          {
            "name": "specialty",
            "type": "PizzaSpecialty",
            "prompt": "What type of pizza?",
            "required": false,
            "customType": true
          }
        ],
        "utterances": [
          "i'd like a pizza",
          "i'd like a {size} pizza",
          "i'd like a {specialty} pizza",
          "i'd like a {size} {specialty} pizza"
        ],
        "intentName": "OrderPizza",
        "newSlotTypes": [
          {
            "slotType": "PizzaSize",
            "slotTypeDescription": "The size of the pizza (Small, Medium, Large)",
            "slotValues": [
              "Small",
              "Medium",
              "Large"
            ]
          }
        ]
      }
    ]
  }
]
```

Push your changes to AWS:

```
amplify push
```

```

$ amplify push

Current Environment: dev

┌ Category      │ Resource name │ Operation │ Provider plugin │
├───────────┬───────────┬──────────┬───────────┤
│ Interactions │ andyPizzaOrder │ Create    │ awscloudformation │
│ Auth         │ andypizzashopeefc3f03 │ Update   │ awscloudformation │
│ Api          │ andypizzashop │ No Change │ awscloudformation │
└───────────┴───────────┴──────────┴───────────┘

? Are you sure you want to continue? (Y/n) 
```

You will receive a confirmation message once the chatbot is provisioned.

```
UPDATE_IN_PROGRESS Product AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:27 GMT+
UPDATE_COMPLETE Variation AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:27 GMT+
UPDATE_COMPLETE Order AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:27 GMT+
UPDATE_COMPLETE Item AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:27 GMT+
UPDATE_COMPLETE Product AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:27 GMT+
UPDATE_COMPLETE amplify-andy-pizza-shop-dev-22959-apiandypizzashop-1C49RKRT43V48 AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:28 GMT+
! Updating resources in the cloud. This may take a few minutes...

UPDATE_COMPLETE apiandypizzashop AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:34 GMT+0000 (Coordinated Universal Time)
UPDATE_COMPLETE authandypizzashopeefc3f03 AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:34 GMT+0000 (Coordinated Universal Time)
UPDATE_COMPLETE amplify-andy-pizza-shop-dev-22959 AWS::CloudFormation::Stack Tue Oct 29 2019 04:38:34 GMT+0000 (Coordinated Universal Time)
✓ All resources are updated in the cloud
```

