

Build, Deploy and Monitor A Chatbot

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Amazon Web Services

STAR WARS

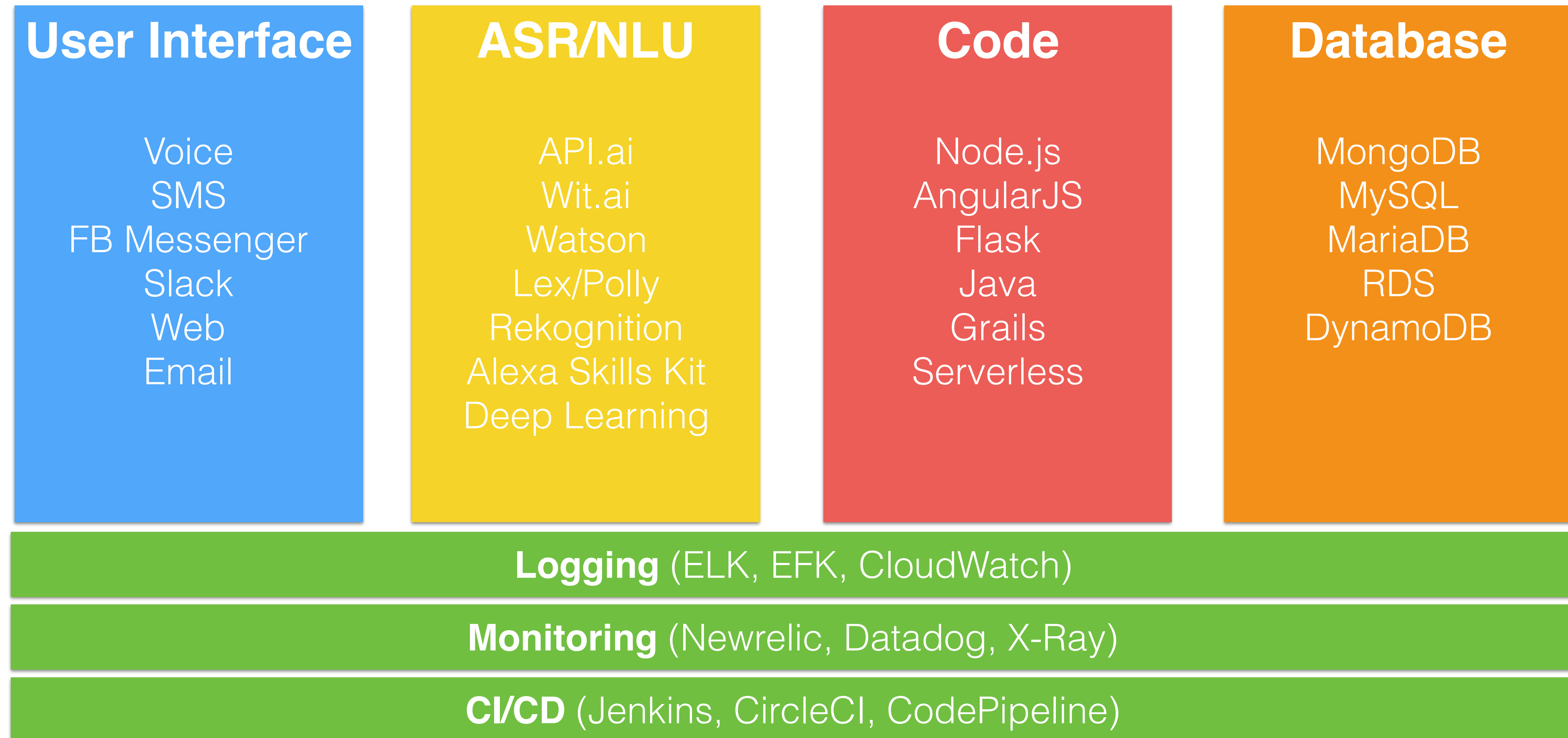
CHATBOT

Docker Captain
Java Champion
JavaOne Rock Star (4 years)
NetBeans Dream Team
Silicon Valley JUG Leader
Author
Runner
Lifelong learner

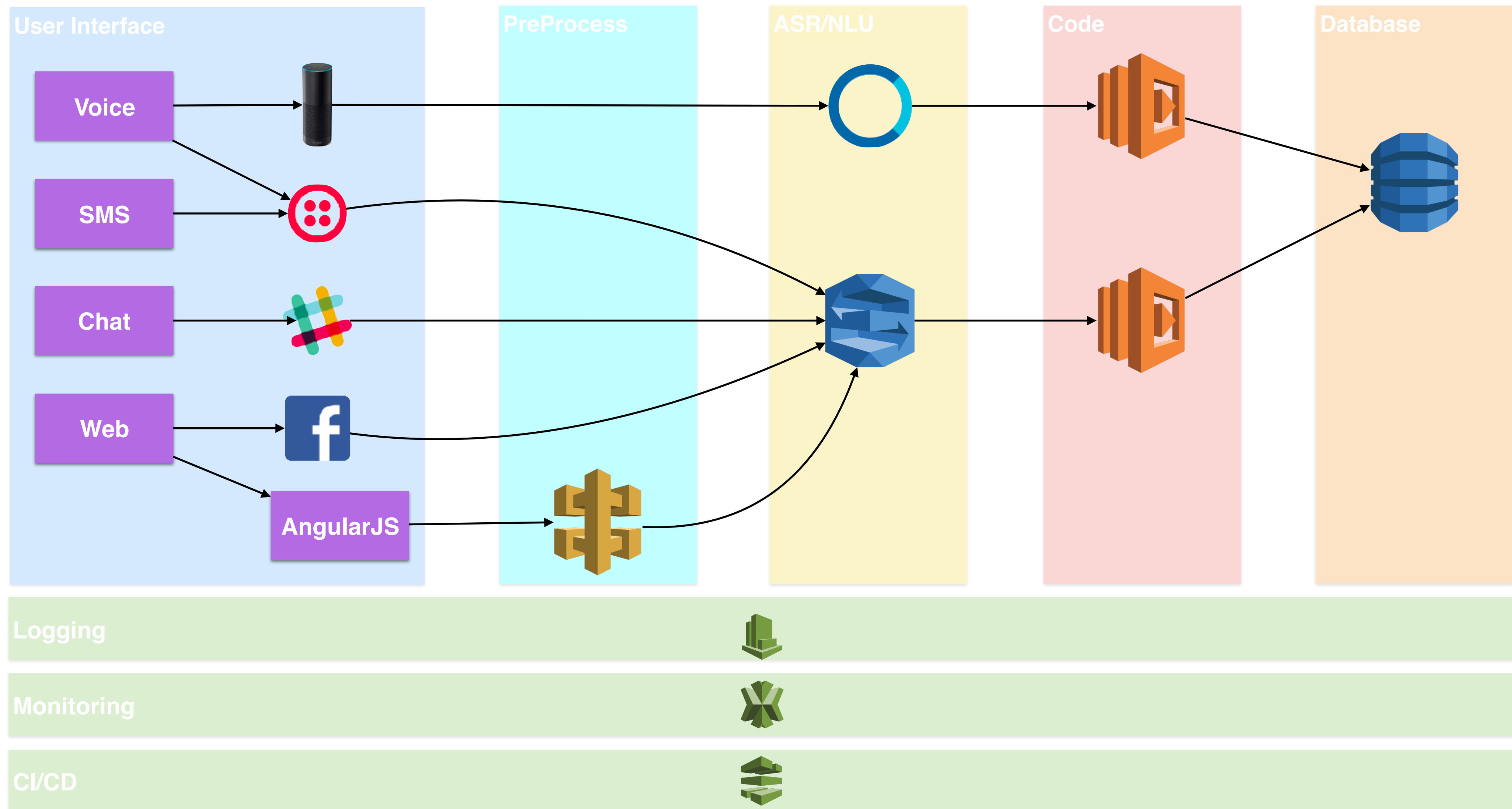


Tell me a Yoda quote

Chatbot Components



Chatbot Architecture



Amazon Lex



- Service for building conversational interfaces using voice and text
- Provides
 - Automatic Speech Recognition (ASR): speech -> text
 - Natural Language Understanding (NLU): text -> intent
- Powered by the same deep learning technologies as Alexa
- <http://aws.amazon.com/lex>

BookHotel

Intents

A particular goal that the user wants to achieve

I'd like to book a hotel.

Utterances

Spoken or typed phrases that invoke your intent

Sure, which city?

New York City

Slots

Data the user must provide to fulfill the intent

What date do you check in?

Prompts

Questions that ask the user to input data

...

Fulfillment

The business logic required to fulfill the user's intent



November 30th.



Are you sure you want to book the hotel in New York City?



Yes.

Thank you. The reservation went through successfully.

Chatbot in 3 steps

- Build a Lex bot
 - Integrate with Twilio
 - Integrate with Slack
 - Integrate with Facebook
 - Integrate with Web
 - Mobile client
- Export Lex bot configuration for Alexa Skills Kit
 - utterances, intent, slots, slot-types and prompts
- Build Alexa skill

Build a Lex Bot

 Services ▾ Resource Groups ▾ 

Lex

Bots

Intents

Slot types

Bots

Create

Actions ▾

Filter:

	Name	Status	Last updated
<input type="radio"/>	OrderFlowers	READY	September 3, 2017 at 6:59:18 PM UTC+2
<input type="radio"/>	StarWars	READY	September 9, 2017 at 3:31:22 AM UTC+2

Facebook Messenger

< StarWars Latest ▾

Editor Settings Channels Monitoring

Chatbots

- Facebook
- Slack
- Twilio SMS

Name*

Description

IAM Role [AWSServiceRc](#)
Automatically cre

KMS key

Alias*

Verify Token*

Page Access Token*

App Secret Key*

Activate

S

Star Wars Chatbot

1 person likes this

Movie

5:21PM

tell me a yoda quote

6:27PM

tell me a yoda quote

S

Here is a quote from Yoda: When nine hundred years old you reach, look as good you will not.

what is the color of luke skywalker lightsaber

S

Luke Skywalker's lighthsaber is blue

what planet is darth vader from?

S

Darth Vader is from Tatooine

Callback URLs

StarWarsChatbot (starwars)

Endpoint URL:

Slack

< StarWars Latest ▾

EditorSettingsChannelsMonitoring

ChatbotsFacebookSlackTwilio SMS

IAM Role AWS Auto

KMS key aw

Alias* Ali

Client Id* Cli

Client Secret* Cli

Verification Token* Ve


Success Page URL Su

Callback URLs

StarWarsSlack (starwars)

Postback URL: http

OAuth URL: http




star_wars_chatbot ●
star_wars_chatbot

This is the very beginning of your direct message history with star_wars_chatbot.


[🔗 How does star_wars_chatbot work?](#)

Today




arungupta 9:14 PM

tell me a yoda quote




Star Wars Chatbot APP 9:14 PM

Here is a quote from Yoda: That is why you fail.




arungupta 9:14 PM

what color is Luke skywalker lightsaber




Star Wars Chatbot APP 9:14 PM

Luke Skywalker's lightsaber is blue



arungupta 9:14 PM

which planet is Darth Vader from



Star Wars Chatbot APP 9:14 PM ☆

Darth Vader is from Tatooine

13

Twilio

< StarWars Latest ▾

Editor Settings **Channels** Monitoring

Chatbots

- Facebook
- Slack
- Twilio SMS**

Fill in the form below and click activate to get a callback URL to use with Twilio. You can generate multiple callback URLs

Name* ⓘ

Description ⓘ

IAM Role [AWSServiceRoleForLexChannels](#) ⓘ
Automatically created on your behalf

KMS key ⓘ

Alias* ⓘ

Account SID* ⓘ

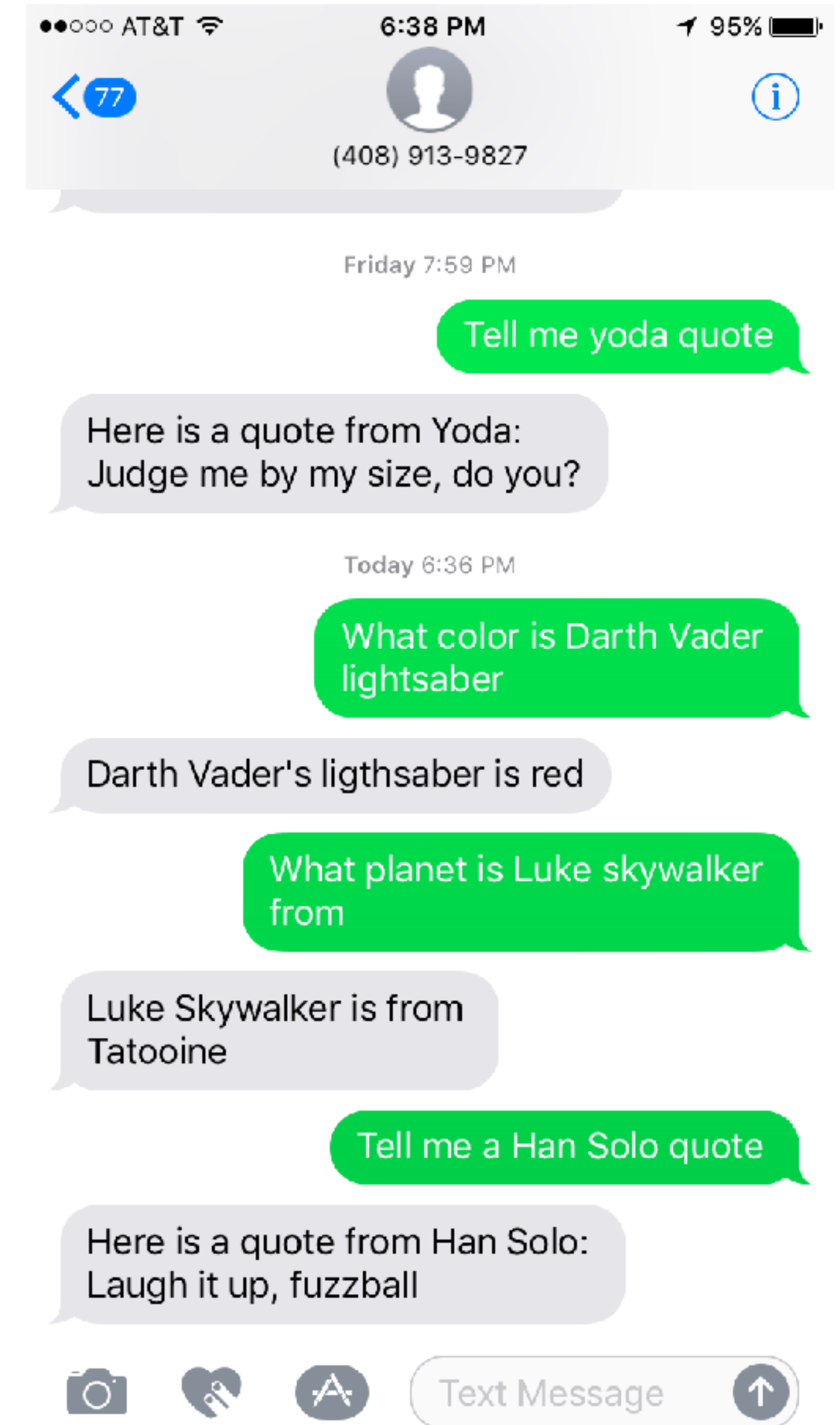
Authentication Token* ⓘ

[Activate](#)

Callback URLs

starwars_sms (starwars) [Delete](#)

Endpoint URL: <https://channels.lex.us-east-1.amazonaws.com/twili...> [Copy](#)



Steps to Build a Skill

- Design a Voice User Interface
 - Define intent schema
 - Map utterances to intent
 - Handle intent in Speechlet
- Setup the Skill in Developer Portal

Security

- AmazonServiceRoleForLexBots

Monitoring

- CloudWatch
- CloudTrail
- X-Ray

CI/CD Pipeline

References

- Amazon Lex: aws.amazon.com/lex
- Developer Portal: developer.amazon.com
- Slides & code: github.com/arun-gupta/chatbot