

A stylized, high-contrast image of Dr. Strange from the movie 'Dr. Strange in the Multiverse of Madness'. He is wearing his signature red and blue robe and his green, patterned turban. He has a confident, slightly mischievous smile and is wearing his round, patterned glasses. His hands are raised in front of him, palms facing forward, with his fingers slightly curled. The background is a dark, swirling, hypnotic pattern of concentric circles in shades of red and black, creating a sense of depth and magic. The overall aesthetic is graphic and dramatic.

DR. STRANGE LOVE

**OR: HOW I LEARNED TO STOP WORRYING
AND LOVE THE SERVERLESS CHATBOTS**

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Walt Disney
American entrepreneur, cartoonist, animator...

CHATBOTS

IDEA IS NOT NEW

- **Turing Test (1950)**
- **Eliza (1966)**
- **Parry (1972)**
- **A.L.I.C.E. (1995)**
- **Jabberwacky (2005)**
- **Slack Bot (2014)**
- **Telegram and FB Bots (2015)**
- **Many others (2016)**

SERVERLESS

FUNCTION AS A SERVICE

- **AWS Lambda (2014)**
- **Google Cloud Functions (2016)**
- **IBM OpenWhisk (2016)**
- **Microsoft Azure Functions (2016)**

SERVERLESS

+

CHATBOTS



Whitney Houston
American singer

MEET **CLAUDIA BOT BUILDER**


```
var botBuilder = require('claudia-bot-builder')  
  
module.exports = botBuilder(function (message) {  
  return 'Thanks for sending ' + message.text  
})
```

OR WITH ES6

```
const botBuilder = require('claudia-bot-builder')  
  
module.exports = botBuilder(message =>  
  `Thanks for sending: ${message.text}`  
)
```






**SO, LET'S BUILD
A TELEGRAM BOT
FOR #HOLYJS**



Edgar Allan Poe
American writer

PART 1.

SETUP AWS



Nikola Tesla
Serbian American inventor

**THE ONLY PREREQUISITE FOR
CLAUDIA BOT BUILDER
IS AN **AWS ACCOUNT****

WHAT DO WE NEED?

(NEW) AWS USER WITH FOLLOWING PERMISSIONS:

- AWS Lambda full access
- IAM full access (optional)
- API Gateway Administrator
- API Gateway push to CloudWatch
- Cloud Watch full access (optional)

LET'S SEE

AWS services

Find a service by name (for example, EC2, S3, Elastic Beanstalk). 🔍

▼ Recently visited services



IAM



CloudWatch



API Gateway



DynamoDB

> All services

Featured next steps



Manage your spend

Get real-time billing alerts based on your cost and usage budgets. [Start now](#)



Get best practices

Use AWS Trusted Advisor for security, performance, cost and availability best practices. [Start now](#)

Build a solution

Get started with simple wizards and automated workflows.



Launch a virtual machine

With EC2
~1 minutes



Build a web app

With Elastic Beanstalk
~6 minutes



Deploy a serverless microservice

With Lambda, API Gateway
~2 minutes



Host a static website

With S3, CloudFront, Route 53
~5 minutes



Create a backend for your mobile app

With Mobile Hub
~5 minutes



Register a domain

With Route 53
~3 minutes

Announcements



PART 2.

BOTFATHER



Sigmund Freud
Austrian neurologist

**THERE'S A TELEGRAM BOT
THAT HELPS YOU TO CREATE
TELEGRAM BOTS!**



The Botfather

AWS Management Console

Claudia.js

Telegram Web

Slobodan

← → ↺

https://web.telegram.org/#/im?p=@BotFather

☰

Telegram

BotFather bot

Media

Edit

🔍 Search



BotFather

4:56 PM



Igor, conference bot

1:26 PM



Stickers

11:28 AM



Mars - National Geogr...

Wed

Mars_2016_E03_Pressur...



travis-telegram-la...

11/27/16

You: /start



Bogdan Gavrilović

11/18/16

Sunday, December 4, 2016

What can this bot do?

BotFather is the one bot to rule them all. Use it to create new bot accounts and manage your existing bots.

About Telegram bots:
<https://core.telegram.org/bots>
Bot API manual:
<https://core.telegram.org/bots/api>

Contact @BotSupport if you have questions about the Bot API.

START

#holyjs
@slobodan_

PART 3.

SIMPLE BOT



Isaac Newton
English physicist and mathematician

BEFORE WE BEGIN WE NEED TO
INSTALL CLAUDIA

<https://claudiajs.com>

```
$ npm install claudia -g
```

bot.js file:

```
const botBuilder = require('claudia-bot-builder')

module.exports = botBuilder(message => {
  return 'Hello from HolyJS bot! You sent: ' +
    message.text
}, {
  platforms: ['telegram']
})
```



```
$ npm init;
```

```
$ npm i claudia-bot-builder -S
```

```
$ claudia create\  
  --region eu-central-1\  
  --api-module bot\  
  --configure-telegram-bot
```



PART 4.

DEBUGGING



George Orwell
English novelist

bot.js file:

```
const botBuilder = require('claudia-bot-builder')
```

```
module.exports = botBuilder(message => {  
  console.log(message)  
  return 'Hello from HolyJS bot! You sent: ' +  
    message.text  
}, {  
  platforms: ['telegram']  
})
```


\$ claudia update

CloudWatch Management Console

Claudia.js

Telegram Web

CloudWatch Management Console

CloudWatch

Services

Resource Groups

EC2

API Gateway

CloudWatch

Welcome to AWS

Frankfurt

Support

CloudWatch

Dashboards

Alarms

ALARM

INSUFFICIENT

OK

Billing

Events

Rules

Logs

Metrics

CloudWatch > Log Groups > /aws/lambda/holyjs > 2016/12/04/[\$LATEST]adb5d4aa10f54dc09a2deab130fa1195

Expand all

Row

Text

Filter events

all

30s

5m

1h

6h

1d

1w

custom

Time (UTC +00:00)	Message
2016-12-04	
No older events found at the moment. Retry.	
17:14:18	START RequestId: 173cd0ca-ba45-11e6-ac66-9f281e65c580 Version: \$LATEST
17:14:19	2016-12-04T17:14:18.885Z 173cd0ca-ba45-11e6-ac66-9f281e65c580 { sender: 44259452, text: 'This should be visible in Cloud Watch via console.log', originalRequest: { update_id: 37069459, message: { message_id: 6, from: [Object], chat: [Object], date: 1480871658, text: 'This should be visible in Cloud Watch via console.log' } }, type: 'telegram' }
17:14:19	END RequestId: 173cd0ca-ba45-11e6-ac66-9f281e65c580
17:14:19	REPORT RequestId: 173cd0ca-ba45-11e6-ac66-9f281e65c580 Duration: 665.05 ms Billed Duration: 700 ms Memory Usage: 128 MB
No newer events found at the moment. Retry.	

MESSAGE OBJECT

- text
- sender
- type
- originalRequest
- postback

PART 5.

**CUSTOM KEYBOARDS
AND ATTACHMENTS**



Coco Chanel
French fashion designer


```
require('claudia-bot-builder').telegramTemplate
```


bot.js file:

```
const botBuilder = require('claudia-bot-builder')
const telegramTemplate = botBuilder. telegramTemplate

module.exports = botBuilder(message => {
  console.log(message)
  return new telegramTemplate.Text('Hello')
    .addReplyKeyboard([[ 'Schedule' ], [ 'Info' ]])
    .get()
}, {
  platforms: [ 'telegram' ]
})
```



Slobodan

test

6:36:54 PM



HolyJS Bot

Hello

6:36:55 PM



Write a message...



SEND

Schedule

Info

- Text messages
- Custom Keyboard
- Photo messages
- Audio messages
- Location messages
- Venue messages
- Stickers
- Change chat action
- Pause between messages

FORMATTED MESSAGES DOCS:

<http://bit.ly/claudia-telegram>

PART 6.

BOT FLOW



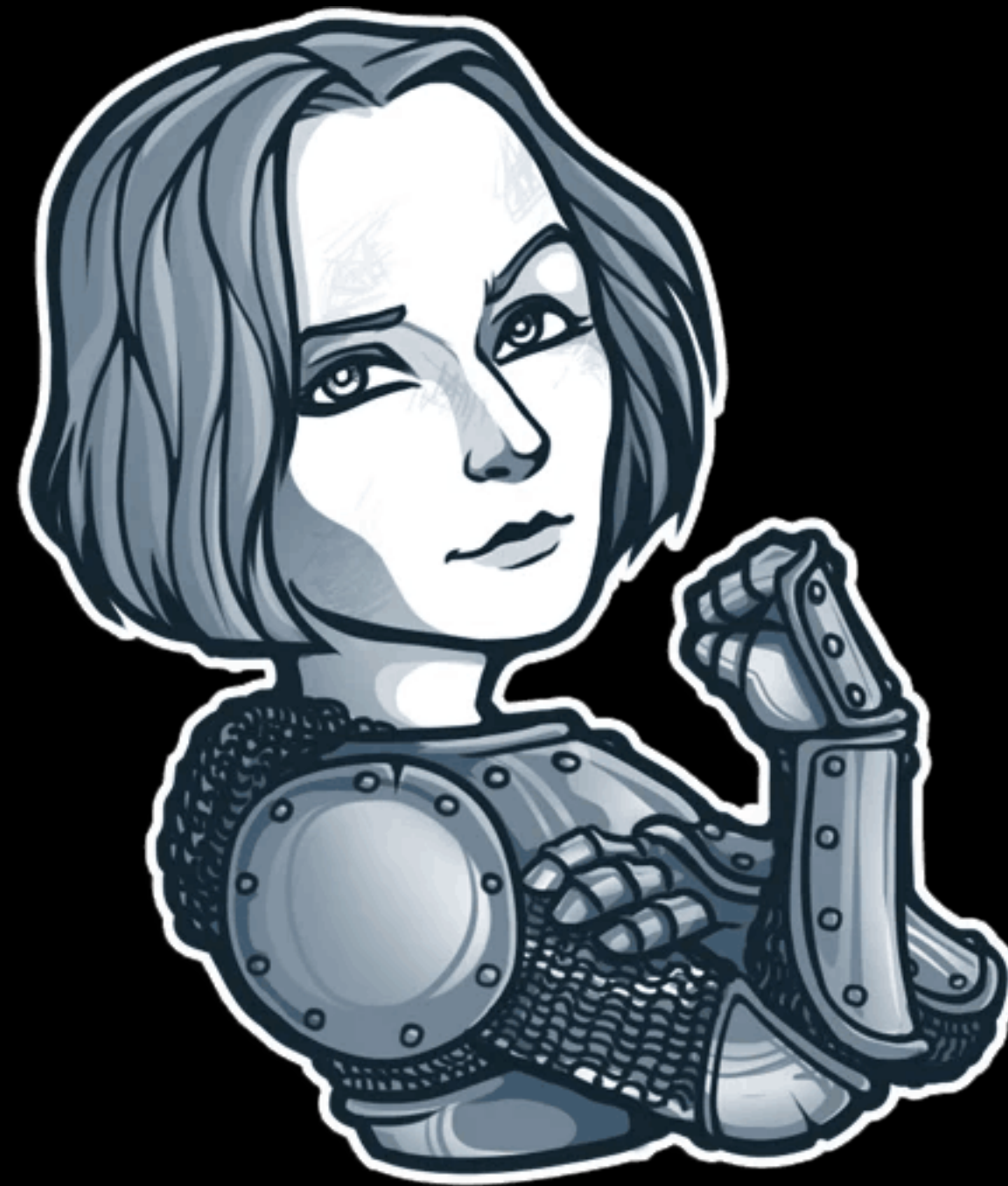
J. R. R. Tolkien
English writer

**YOUR BOT NEEDS
A STORYLINE**

! VIDEO PLACEHOLDER !

PART 7.

SAVE THE STATE



Joan de Arc
Heroine of France

DYNAMO DB

```
$ aws dynamodb create-table --table-name holyjs-state \  
  --attribute-definitions \  
    AttributeName=userId,AttributeType=S \  
  --key-schema AttributeName=userId,KeyType=HASH \  
  --provisioned-throughput \  
    ReadCapacityUnits=1,WriteCapacityUnits=1 \  
  --query TableDescription.TableArn --output text
```

DynamoDB Policy

```
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Action": [  
        "dynamodb:GetItem",  
        "dynamodb:UpdateItem",  
        "dynamodb:PutItem"  
      ],  
      "Effect": "Allow",  
      "Resource": "*"   
    }  
  ]  
}
```


! VIDEO PLACEHOLDER !

PART 6.

MULTILANGUAGE



Mark Twain
American author and humorist

**EASIEST SOLUTION:
SAVE LANGUAGE SETTINGS
IN DYNAMO DB**

! VIDEO PLACEHOLDER !

PART 7.

SCHEDULED NOTIFICATIONS



John Lennon
English singer and songwriter

FOR NOTIFICATIONS: **CLOUD WATCH SCHEDULED EVENTS**

Step 1: Create rule

Create rules to automate actions in your AWS environment.

Event selector

Build a pattern that selects events for processing by your targets.

Schedule ▼

☐ Fixed rate of **Minutes** ▼

☒ Cron expression

[Learn more](#) about CloudWatch Events schedules.

Targets

Select the targets to receive the events that match the rule you defined.

Lambda function ▼ ✕

Function*

► Configure version/alias

▼ Configure input

☐ Matched event ⓘ

☐ Part of the matched event ⓘ

☒ Constant (JSON text) ⓘ

+ Add target*

! VIDEO PLACEHOLDER !

PART 8.

NLP AND AI

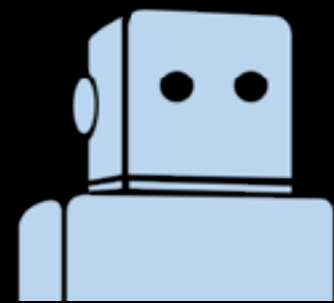


H. P. Lovecraft
American writer of horror fiction

BUTTONS ARE COOL, BUT...



API.AI



WIT.AI



LUIS.AI



IBM WATSON

LET'S MAKE OUR BOT SMARTER
WITH API.AI

! VIDEO PLACEHOLDER !

SHOW TIME!



Salvador Dali
Spanish surrealist painter

LIVE BOT:

[telegram.me/holyjs_bot](https://t.me/holyjs_bot)

! VIDEO PLACEHOLDER !



OR



Julius Caesar
Roman statesman and general

SOURCE CODE:



STOJANOVIC/HOLYJS-BOT

SEND **PR TO ADD NEW SKILLS:**

<https://github.com/stojanovic/holyjs-bot>

CLAUDIA BOT BUILDER



CLAUDIAJS/CLAUDIA-BOT-BUILDER

THE



END

Marilyn Monroe
American actress

**QUESTIONS
TIME**



**@SLOBODAN_
#HOLYJS**

Erwin Schrödinger
Nobel Prize-winning Austrian physicist