

BRIAN NUSZKOWSKI

@NUSZKOWSKI

VOICE OPS

COMMAND AND CONTROL

AMAZON ECHO: WHAT IS IT



DEVICE SETUP

- ▶ Echo creates a 802.11 network, is default gateway (Amazon-40H)
- ▶ Join Echo network, configure with app or browser
- ▶ Instruct Echo to join appropriate wireless network
 - ▶ SSIDs on both 2.4Ghz and 5GHz problematic
- ▶ Performs setup and other things

VOICE OPS: COMMAND AND CONTROL

```
POST /OOBE HTTP/1.1
Host: 10.201.126.241:8080
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://alexa.amazon.com
Content-Length: 17
Connection: keep-alive
Accept: text/plain, */*; q=0.01
User-Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 9_2_1 like Mac OS X) AppleWebKit/601.1.46 (KHTML, like Gecko) Mobile/13D15
PitanguiBridge/1.9.36.0-[HARDWARE=iPhone7_2][SOFTWARE=9.2.1]
Referer: http://alexa.amazon.com/spa/index.html
Accept-Language: en-us
Accept-Encoding: gzip, deflate
```

```
[1,"ping",1,0,{}]
```

```
HTTP/1.1 200 OK
Content-Length: 29
Content-Type: text/plain
Connection: close
Allow: POST, OPTIONS
Access-Control-Allow-Origin: http://alexa.amazon.com
```

```
[1,"ping",2,0,{"0":{"tf":1}}]
```

VOICE OPS: COMMAND AND CONTROL

```
[1, "getDeviceDetails", 1, 0, {}]
```

Help & Customer Service

Go

◀ All Help Topics

Amazon Echo Help



- Alexa & Alexa Device Terms
- Amazon Echo Terms of Use
- Alexa Terms of Use
- Source Code Notice
- Alexa and Alexa Device FAQs

Quick solutions

- Devices & content**
Deliver books, apps to your device
- Digital purchases**
View purchased books & apps
- Your subscriptions**
Edit payment info
- 1-Click settings**
Change your address

Ask the Kindle Help community
Ask the Help community

Contact Us

Amazon Device Support › Amazon Echo Help › Alexa and Alexa Device Terms, Warranties, and Notices ›

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Click on the links below to download the Source Code:

Amazon Echo

- Echo_src_2.1.1_3077.tar.gz
- Echo_src_2.1_3058.tar.gz
- Echo_src_1.4.1_2723.tar.gz
- Echo_src_1.4_2690.tar.gz
- Echo_src_1.4_2606.tar.gz
- Echo_src_1.3_2530.tar.gz
- Echo_src_1.1_2332.tar.gz
- Echo_src_1.0.3_2249.tar.gz
- Echo_src_1.0.2_2171.tar.gz
- Echo_src_1.0.1_2100.tar.gz
- Echo_src_1.0.0_2057.tar.gz

Was this information helpful?

YesNo

Go

VOICE OPS: COMMAND AND CONTROL

```
Certificate:
  Data:
    Version: 3 (0x2)
    Serial Number:
      98:20:eb:d8:2b:76:e7:9d
    Signature Algorithm: sha1WithRSAEncryption
    Issuer: C=US, ST=CA, L=Cupertino, O=Lab126, CN=setup
    Validity
      Not Before: Jan 26 02:42:54 2016 GMT
      Not After : Jan 26 02:42:54 2142 GMT
    Subject: C=US, ST=CA, L=Cupertino, O=Lab126, CN=setup
    Subject Public Key Info:
      Public Key Algorithm: rsaEncryption
      RSA Public Key: (2048 bit)
        Modulus (2048 bit):
          00:cc:e7:35:8f:5c:bb:d4:a3:d7:cf:c8:0d:b8:71:
          c2:c6:d3:8e:d8:3f:46:d3:02:40:b9:70:eb:ab:0c:
          71:a7:a5:97:af:2e:ed:08:5b:01:ce:d9:68:81:42:
          d6:19:26:cb:ea:f8:ec:65:16:38:86:3b:72:33:62:
          18:2e:cd:fa:7c:e7:d5:c1:46:a1:b0:58:34:08:02:
          92:b1:a9:47:37:f6:0e:65:5f:08:81:a4:76:40:0f:
          fb:07:2b:fe:f9:ae:7c:fd:4d:54:a5:56:44:3a:7e:
          4b:a4:bd:4e:c7:8b:ce:0a:9d:18:86:1f:74:00:6f:
          f0:c6:e5:e1:f5:a8:98:bf:1d:1e:3d:c7:41:76:46:
          62:ac:dc:6f:a3:7a:c8:5b:eb:ac:13:6a:e4:3d:fb:
          53:a3:a5:b5:91:1f:bf:93:18:0d:cc:17:85:a6:4d:
          4c:b7:cb:86:a3:d3:b7:e4:c3:28:e4:e5:f2:a1:5a:
          be:97:46:52:1e:b6:44:07:63:cd:24:cc:4f:7c:f7:
          fc:f0:58:49:a6:26:46:f0:44:e6:c7:24:dd:73:ca:
          73:21:78:0d:38:5c:c9:59:f5:ca:f3:3a:87:09:35:
          3f:9f:7c:5b:42:23:95:38:47:6e:c0:88:7f:28:c3:
          14:bf:58:ba:99:ad:c7:1c:32:fe:87:88:c1:e5:76:
          5e:27
        Exponent: 65537 (0x10001)
  X509v3 extensions:
    X509v3 Subject Key Identifier:
      4B:4A:9A:A7:DA:8E:50:58:DD:97:AA:03:B9:5E:05:DA:EF:6C:2E:6F
    X509v3 Authority Key Identifier:
      keyid:4B:4A:9A:A7:DA:8E:50:58:DD:97:AA:03:B9:5E:05:DA:EF:6C:2E:6F

    X509v3 Basic Constraints:
      CA:TRUE
  Signature Algorithm: sha1WithRSAEncryption
    32:80:2a:f1:70:71:50:a8:84:59:fb:ce:85:e9:b2:f8:fe:6b:
    c5:a8:18:22:1b:52:58:83:62:ec:86:fa:c3:4e:8e:88:89:7d:
    45:de:aa:c1:30:75:eb:0e:d0:55:a4:d8:f3:07:1a:7b:f6:39:
    07:81:39:e8:8d:4d:47:3c:d9:de:25:80:d9:bd:98:8c:d6:43:
    bf:3e:fd:90:ba:7f:4d:b5:20:84:b8:fc:c0:ae:f7:74:64:c6:
    c7:f9:d6:59:c8:82:df:d6:a3:b1:b1:7e:ac:18:f6:f9:02:e1:
    46:b4:ab:a0:88:64:75:4a:96:6a:35:64:d1:a9:65:e7:a8:25:
    c9:ce:0b:84:85:95:83:55:f8:26:66:23:48:3a:49:06:c7:be:
    ef:3a:b8:c1:66:dc:ac:a0:ed:74:2c:5c:9d:7b:b6:d2:82:78:
    ea:b8:ee:41:64:42:aa:01:d8:91:f7:c7:aa:5c:79:e8:84:7d:
    80:d4:c4:5d:f3:96:db:59:8a:01:80:a0:40:3b:69:5d:d0:7e:
    30:50:44:86:ba:c5:4a:5e:9d:7e:31:cf:2b:16:04:d1:ec:d0:
    7b:ad:e3:bc:b8:6e:e3:9b:c0:32:c0:86:e8:29:ba:b3:55:3c:
    5b:8c:b7:6a:6e:cb:28:a2:d8:ba:ae:c2:da:f6:50:ce:51:f1:
    18:df:ef:fa
```



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life at lab126

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We are...

Amazon Lab126 is an inventive research and development company that designs and engineers high-profile consumer electronic devices. Lab126 began in 2004 as a subsidiary of Amazon.com. Since then, we have worked to produce hardware and software for devices like **Fire tablets**, **Kindle Voyage**, **Amazon Fire TV**, and **Amazon Echo**.

Be a part of our story.

Are you interested in joining Amazon Lab126? We are seeking thoughtful, curious, passionate people with talent in engineering, design, operations, and more. Our offices are located in Cupertino and Sunnyvale, California, Seattle, and Boston. [Check out our careers page](#) for open positions.

VOICE OPS: COMMAND AND CONTROL

```
[1,"getScanList",1,0,{})HTTP/1.1 200 OK
```

VOICE OPS: COMMAND AND CONTROL

```
POST /OOBE HTTP/1.1
Host: 10.201.126.241:8080
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://alexa.amazon.com
Content-Length: 78
Connection: keep-alive
Accept: text/plain, */*; q=0.01
User-Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 9_2_1 like Mac OS X) AppleWebKit/601.1.46 (KHTML,
like Gecko) Mobile/13D15 PitanguiBridge/1.9.36.0-[HARDWARE=iPhone7_2][SOFTWARE=9.2.1]
Referer: http://alexa.amazon.com/spa/index.html
Accept-Language: en-us
Accept-Encoding: gzip, deflate
```

```
[1,"connectToAP",1,0,{"1":{"rec":{"1":{"str":"lolplaintext"},"2":{"i32":1}}}}}]
```

```
HTTP/1.1 200 OK
Content-Length: 37
Content-Type: text/plain
Connection: close
Allow: POST, OPTIONS
Access-Control-Allow-Origin: http://alexa.amazon.com
```

```
[1,"connectToAP",2,0,{"0":{"i32":0}}}]
```

VOICE OPS: COMMAND AND CONTROL

```
GET /kindle-wifi/wifistub-echo.html HTTP/1.1
User-Agent: Mozilla /5.0 (Linux; like iPhone; U; en-US) AppleWebKit/528.5+ (KHTML, like Gecko, Safari/528.5+) Version/
4.0
Accept: */*
Host: spectrum.s3.amazonaws.com
```

```
HTTP/1.1 200 OK
x-amz-id-2: VHHG/y3u85z2EbDpeC+dHE35rk2SnfKXluyKfaQwRGNY5dnpbqnzzdbnTyoA5MV2yFiImbZbol4=
x-amz-request-id: C502B30B51A5A77A
Date: Fri, 04 Mar 2016 15:44:21 GMT
Last-Modified: Thu, 31 Dec 2015 12:54:29 GMT
ETag: "4384cffb0af0f42d033cc1465f016427"
Accept-Ranges: bytes
Content-Type: text/html
Content-Length: 419
Server: AmazonS3
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
<head>
<title>Kindle Reachability Probe Page</title>
<META http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<!--81ce4465-7167-4dcb-835b-dcc9e44c112a created with python 2.5 uuid.uuid4()-->
</head>
<body bgcolor="#ffffff" text="#000000">
81ce4465-7167-4dcb-835b-dcc9e44c112a
</body>
</html>
```

VOICE OPS: COMMAND AND CONTROL

```
POST /OOBE HTTP/1.1
Host: 10.201.126.241:8080
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://alexa.amazon.com
Content-Length: 24
Connection: keep-alive
Accept: text/plain, */*; q=0.01
User-Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 9_2_1 like Mac OS X) AppleWebKit/601.1.46 (KHTML,
like Gecko) Mobile/13D15 PitanguiBridge/1.9.36.0-[HARDWARE=iPhone7_2][SOFTWARE=9.2.1]
Referer: http://alexa.amazon.com/spa/index.html
Accept-Language: en-us
Accept-Encoding: gzip, deflate
```

```
[1,"getLinkCode",1,0,{}]
```

```
HTTP/1.1 200 OK
Content-Length: 85
Content-Type: text/plain
Connection: close
Allow: POST, OPTIONS
Access-Control-Allow-Origin: http://alexa.amazon.com
```

```
[1,"getLinkCode",2,0,{"0":{"rec":{"1":{"rec":{"1":{"str":"VE277"}}},"2":{"i32":0}}}}}]
```

VOICE OPS: COMMAND AND CONTROL

```
POST /OOBE HTTP/1.1
Host: 10.201.126.241:8080
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://alexa.amazon.com
Content-Length: 33
Connection: keep-alive
Accept: text/plain, */*; q=0.01
User-Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 9_2_1 like Mac OS X) AppleWebKit/601.1.46 (KHTML,
like Gecko) Mobile/13D15 PitanguiBridge/1.9.36.0-[HARDWARE=iPhone7_2][SOFTWARE=9.2.1]
Referer: http://alexa.amazon.com/spa/index.html
Accept-Language: en-us
Accept-Encoding: gzip, deflate
```

```
[1,"getRegistrationState",1,0,{}]
```

```
HTTP/1.1 200 OK
Content-Length: 46
Content-Type: text/plain
Connection: close
Allow: POST, OPTIONS
Access-Control-Allow-Origin: http://alexa.amazon.com
```

```
[1,"getRegistrationState",2,0,{"0":{"i32":2}}]
```

VOICE OPS: COMMAND AND CONTROL

```
POST /OOBE HTTP/1.1
Host: 10.201.126.241:8080
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://alexa.amazon.com
Content-Length: 36
Connection: keep-alive
Accept: text/plain, */*; q=0.01
User-Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 9_2_1 like Mac OS X) AppleWebKit/601.1.46 (KHTML,
like Gecko) Mobile/13D15 PitanguiBridge/1.9.36.0-[HARDWARE=iPhone7_2][SOFTWARE=9.2.1]
Referer: http://alexa.amazon.com/spa/index.html
Accept-Language: en-us
Accept-Encoding: gzip, deflate
```

```
[1,"getAlexaConnectionState",1,0,{}]
```

```
HTTP/1.1 200 OK
Content-Length: 49
Content-Type: text/plain
Connection: close
Allow: POST, OPTIONS
Access-Control-Allow-Origin: http://alexa.amazon.com
```

```
[1,"getAlexaConnectionState",2,0,{"0":{"i32":2}}]
```

VOICE OPS: COMMAND AND CONTROL

```
POST /00BE HTTP/1.1
Host: 10.201.126.241:8080
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Origin: http://alexa.amazon.com
Content-Length: 26
Connection: keep-alive
Accept: text/plain, */*; q=0.01
User-Agent: Mozilla/5.0 (iPhone; CPU iPhone OS 9_2_1 like Mac OS X) AppleWebKit/601.1.46 (KHTML,
like Gecko) Mobile/13D15 PitanguiBridge/1.9.36.0-[HARDWARE=iPhone7_2][SOFTWARE=9.2.1]
Referer: http://alexa.amazon.com/spa/index.html
Accept-Language: en-us
Accept-Encoding: gzip, deflate
```

```
[1,"setupComplete",1,0,{}]
```

```
HTTP/1.1 200 OK
Content-Length: 39
Content-Type: text/plain
Connection: close
Allow: POST, OPTIONS
Access-Control-Allow-Origin: http://alexa.amazon.com
```

```
[1,"setupComplete",2,0,{"0":{"i32":0}}]
```

COMMUNICATION WITH AMAZON

alexa.amazon.com
pitangui.amazon.com
dp-gw-na-js.amazon.com
api.amazon.com
spectrum.s3.amazonaws.com

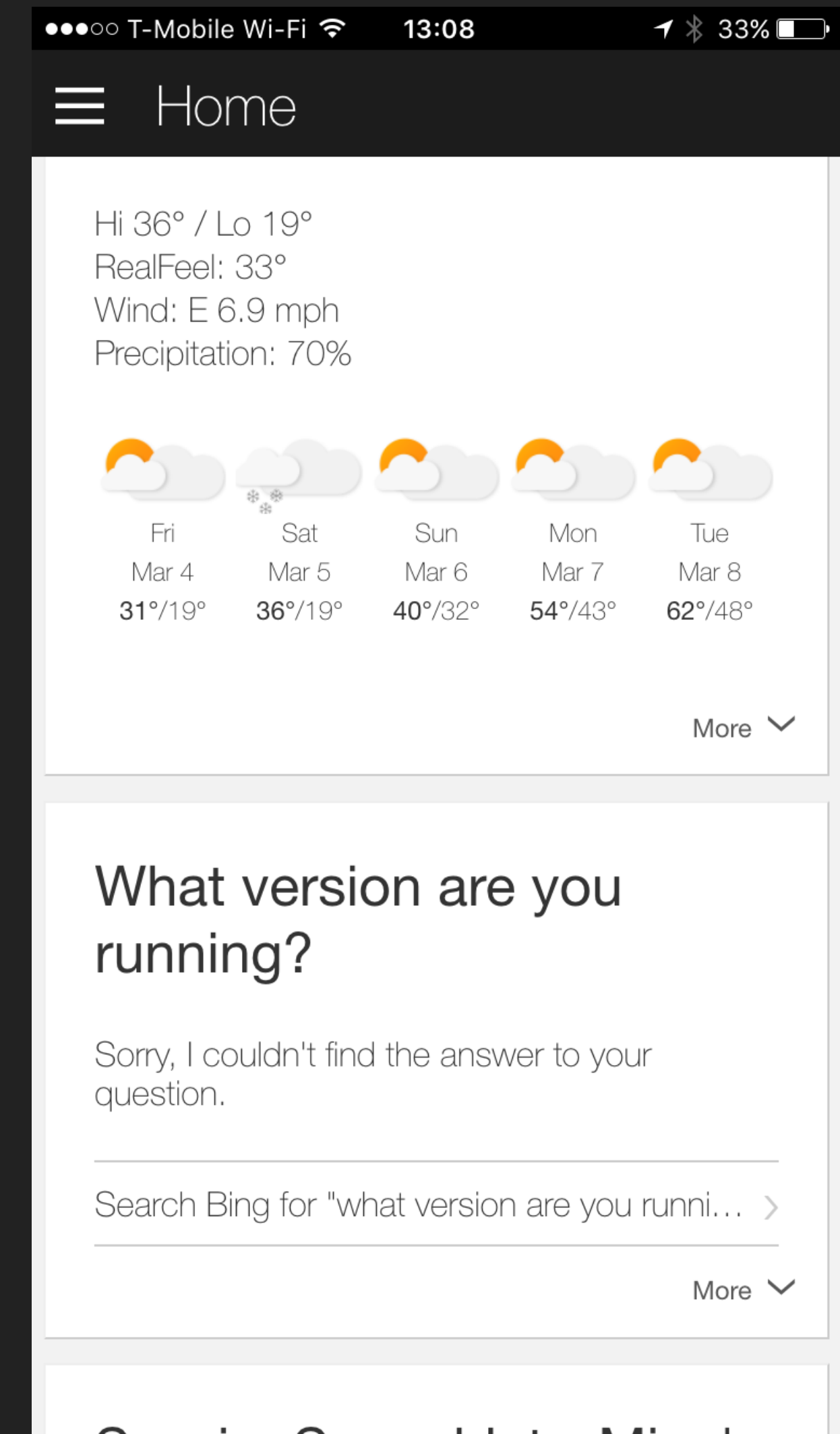
pindorama.amazon.com
pins.amazon.com
firs-ta-g7g.amazon.com
todo-ta-g7g.amazon.com
guipitan.amazon.com
ntp.amazon.com
ntp-g7g.amazon.com
softwareupdates.amazon.com

FEATURE RUNDOWN

- ▶ Music/News/Audio
- ▶ Weather
- ▶ Basic AI info
- ▶ Connected Home Automation
- ▶ Alarms / Reminders
- ▶ Notes
- ▶ Shopping Lists / Actual Shopping



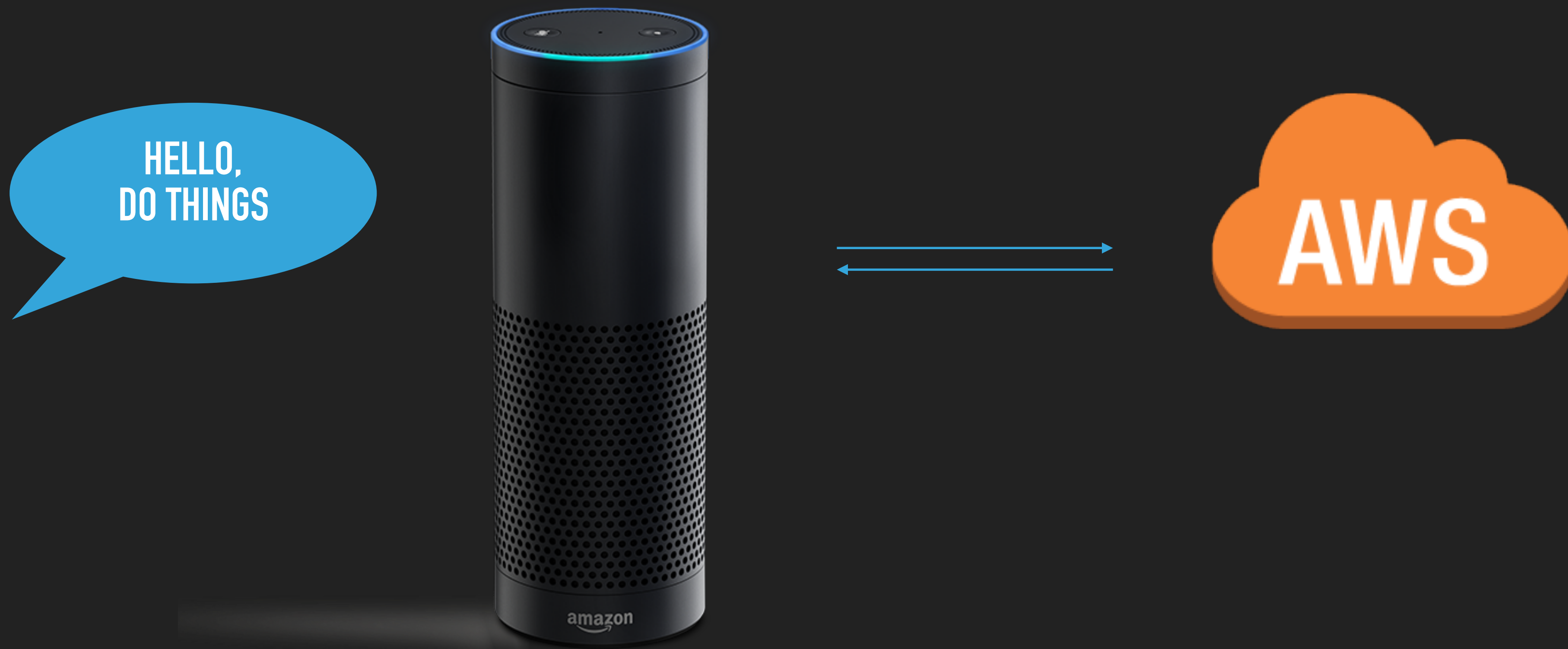
CARDS



BUILDING SKILLS FOR THE ECHO:

Alexa Skills Kit (ASK)

ASSUME WHAT IS HAPPENING



GETTING STARTED WITH (ASK)



- ▶ Purchase the device (not required)
- ▶ Register with Amazon Developer Portal
- ▶ **Build your Interaction Model**
- ▶ **Building an Echo Endpoint**
- ▶ Test

INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL ICE CREAM BOT
TO MAKE ICE CREAM



INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL ICE CREAM BOT
TO MAKE ICE CREAM



WAKE WORD

Alexa

Amazon

Echo

INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL ICE CREAM BOT
TO MAKE ICE CREAM



REQUEST PHRASE(S)

INVOCATION GUIDELINES: REQUEST PHRASES

ASK?

Play

Talk To

Open

Launch

Start



TELL.

Use

Resume

Run

Load

Begin

INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL **ICE CREAM BOT**
TO MAKE ICE CREAM



INVOCATION NAME

INVOCATION GUIDELINES



- ▶ Falls within supported phrase guidelines
- ▶ ≥ 2 syllables, 3 word maximum
- ▶ Words most English speakers would find Normal
- ▶ No punctuation
- ▶ Overlap (Dominoze Pizza, or Ohh-brrr)

INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL ICE CREAM BOT
TO MAKE ICE CREAM



UTTERANCE

INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL ICE CREAM BOT
TO MAKE <XXXXX>
ICE CREAM



DYNAMIC
UTTERANCE

INVOCATION & INTERACTION BREAKDOWN

ALEXA,
TELL ICE CREAM BOT
TO MAKE GARLIC
ICE CREAM



UTTERANCE

SLOT

VOICE BREAKDOWN

"**Alexa**, tell **Ice Cream Bot** to make garlic Ice Cream"

WAKE WORD - Begins the conversation with the device

REQUEST PHRASE(S) - Support phrases for requesting a skill

INVOCATION NAME - Words/phrase to trigger your skill

UTTERANCE - Words that state specific question, request, or demand

SLOTS - Key variables inside of an utterance (built in slots)

VOICE BREAKDOWN

"**Alexa**, ask **Reports Bot** for my TPS reports for Friday"

WAKE WORD - Begins the conversation with the device

REQUEST PHRASE(S) - Support phrases for requesting a skill

INVOCATION NAME - Words/phrase to trigger your skill

UTTERANCE - Words that state specific question, request, or demand

SLOTS - Key variables inside of an utterance (built in slots)

INTENTS MAP AN UTTERANCE TO A 'VARIABLE' THAT IS REFERENCED IN YOUR SKILL PROGRAM

MakeIceCream → "make ice cream"

Intent → *Utterance*

MakeIceCream → "make {flavor} ice cream"

Intent → *Utterance + Slot*

INTENT SCHEMA

```
{
  "intents": [
    {
      "intent": "MakeIceCream",
      "slots": [
        {
          "name": "FLAVOUR",
          "type": "ICE_CREAM_FLAVORS"
        }
      ]
    }
  ]
}
```

CUSTOM SLOTS

ICE_CREAM_FLAVORS Cherry | MinceMeat | Garlic | Vanilla | Chocolate

SAMPLE UTTERANCES

- ▶ MakeIceCream make ice cream
- ▶ MakeIceCream make ice cream please
- ▶ MakeIceCream make {FLAVOUR} ice cream
- ▶ MakeIceCream make {FLAVOUR} ice cream please
- ▶ MakeWaffleCone make a waffle cone
- ▶ MakeWaffleCone make a waffle cone please
- ▶ MakeWaffleCone make waffle cones

VOICE OPS: COMMAND AND CONTROL

```
{
  "intents": [
    {
      "intent": "MakeIceCream",
      "slots": [
        {
          "name": "FLAVOUR",
          "type": "ICE_CREAM_FLAVORS"
        }
      ]
    }
  ]
}
```

ICE_CREAM_FLAVORS Cherry | MinceMeat | Garlic | Vanilla | Chocolate

MakeIceCream make ice cream

MakeIceCream make ice cream please

MakeIceCream make {FLAVOUR} ice cream

MakeIceCream make {FLAVOUR} ice cream please

VOICE OPS: COMMAND AND CONTROL

```
{
  "intents": [
    {
      "intent": "MakeIceCream",
      "slots": [
        {
          "name": "FLAVOUR",
          "type": "ICE_CREAM_FLAVORS"
        }
      ]
    }
  ]
}
```

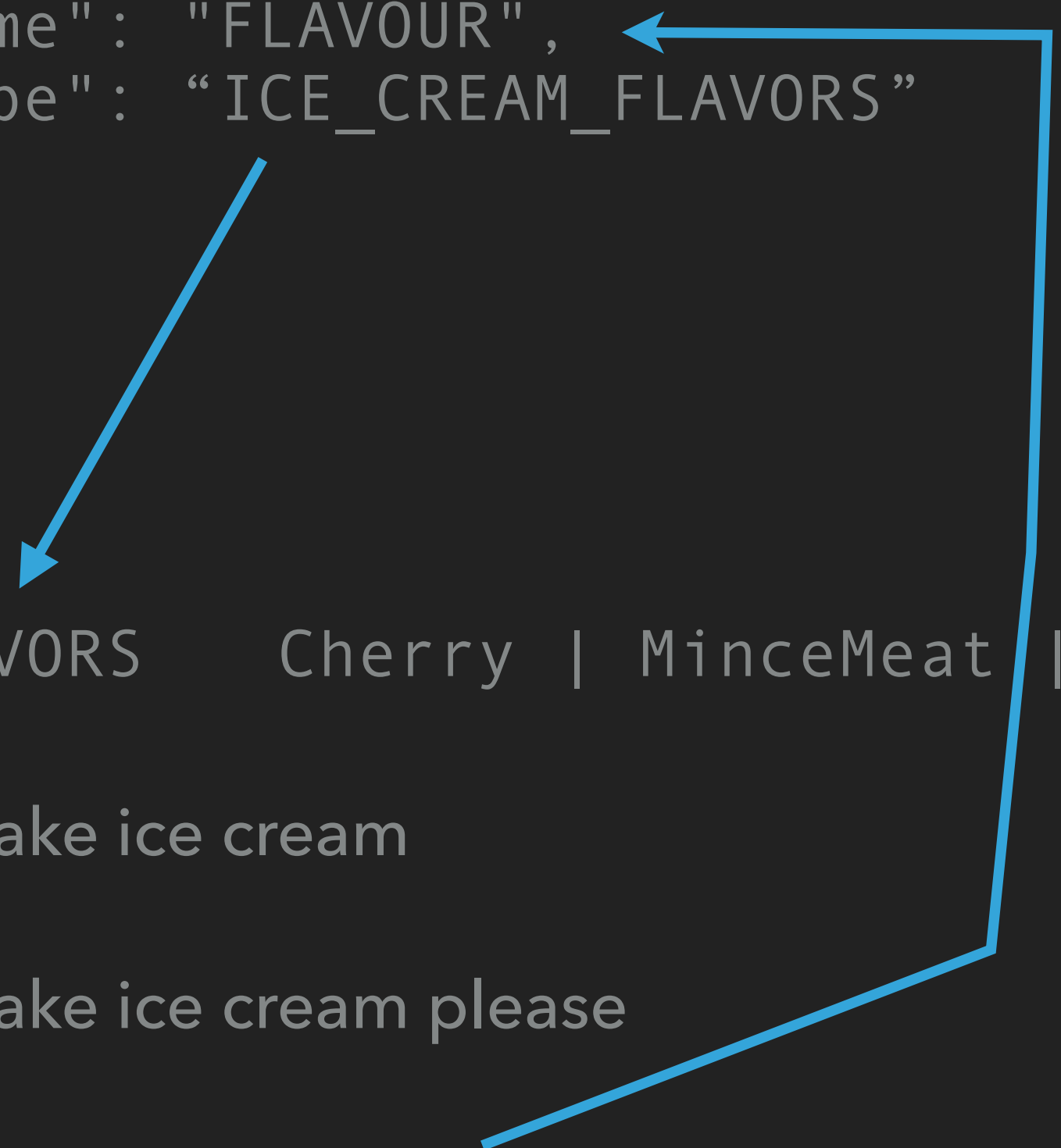
ICE_CREAM_FLAVORS Cherry | MinceMeat | Garlic | Vanilla | Chocolate

MakeIceCream make ice cream

MakeIceCream make ice cream please

MakeIceCream make {FLAVOUR} ice cream

MakeIceCream make {FLAVOUR} ice cream please



BUILT-IN SLOTS

- ▶ `AMAZON.NUMBER` – converts numeric words (“five”) into digits (such as “5”).
- ▶ `AMAZON.DATE` – converts words that indicate dates (“today”, tomorrow, or “july”) into a date format (such as “2015-07-00T9”).
- ▶ `AMAZON.TIME` – converts words that indicate time (“four in the morning”, “two p m”) into a time value (“04:00”, “14:00”).
- ▶ `AMAZON.DURATION` – converts words that indicate durations (“five minutes”) into a numeric duration (“5M”).

BUILT-IN INTENTS

Available Built-in Intents		
The following table summarizes the built-in intents you can implement. Note that this table shows a subset of the utterances users can say to invoke these intents. Additional utterances may also be added over time.		
Intent	Common Utterances	Purpose
AMAZON.CancelIntent	- cancel - never mind - forget it	Either of the following: - Let the user cancel a transaction or task (but remain in the skill) - Let the user completely exit the skill See below for more about canceling and stopping.
AMAZON.HelpIntent	- help - help me - can you help me	Provide help about how to use the skill. See “Offer Help for Complex Skills” in the Voice Design Best Practices for guidelines about help text.
AMAZON.NoIntent	- no - no thanks	Let the user provide a negative response to a yes/no question for confirmation.
AMAZON.RepeatIntent	- repeat - say that again - repeat that	Let the user request to repeat the last action.
AMAZON.StartOverIntent	- start over - restart - start again	Let the user request to restart an action, such as restarting a game or a transaction.
AMAZON.StopIntent	- stop - off - shut up	Either of the following: - Let the user stop an action (but remain in the skill) - Let the user completely exit the skill See below for more about canceling and stopping.
AMAZON.YesIntent	- yes - yes please - sure	Let the user provide a positive response to a yes/no question for confirmation.

EXTENDING BUILT-IN INTENTS

- ▶ AMAZON.HelpIntent help me order a taxi
- ▶ AMAZON.HelpIntent how do I order a taxi

VOICE OPS: COMMAND AND CONTROL



HTTP POST (JSON)

Intent + (Slots)

HTTP RESPONSE
(JSON)



You process intents
programmatically

Amazon Analyses and Processes
voice into intents w/slots

BUILDING AN ENDPOINT

▶ Alexa Skill as a Web Service

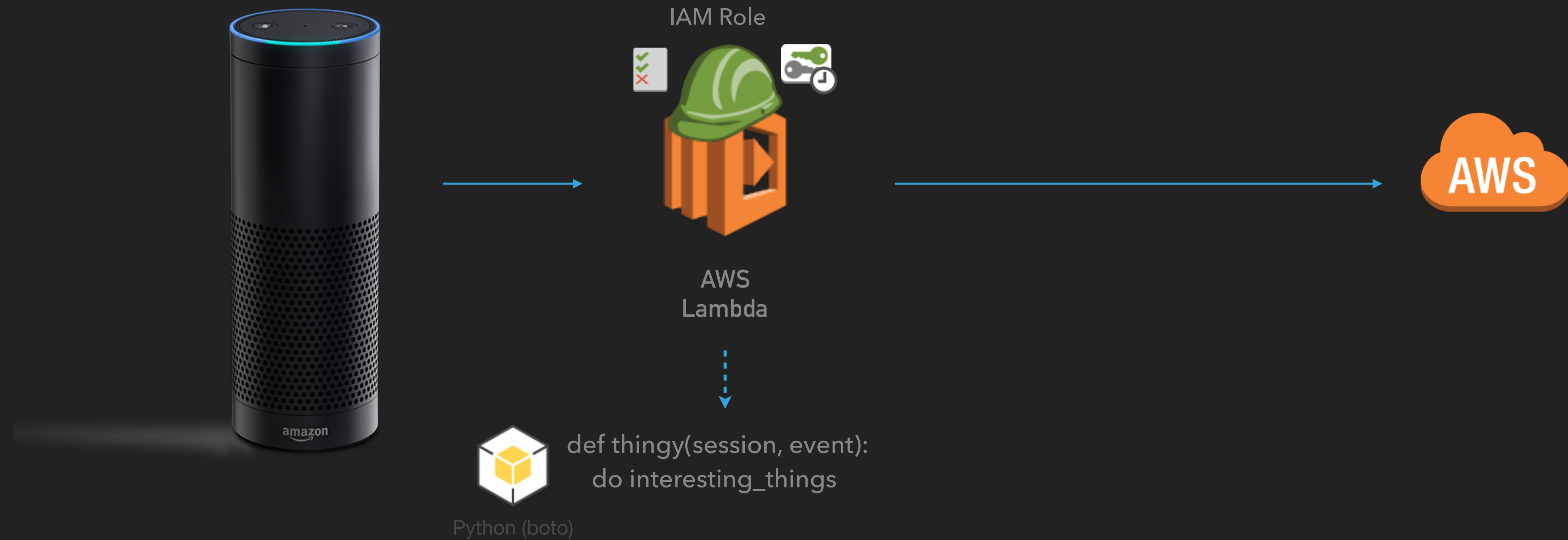
- ▶ Must be internet accessible
- ▶ Must support HTTP and TLS (port 443 only)
 - ▶ Trusted certificate: 3rd party or self-signed
- ▶ Full control over runtime and language
- ▶ Manage endpoint security
- ▶ Responsible for full management, scaling, and availability

▶ Alexa Skill as a Lambda Function

- ▶ Point skill definition at Lambda function ARN
- ▶ Fully Managed
- ▶ Scalability Included
- ▶ Inexpensive
- ▶ Language limited
- ▶ us-east-1



LAMBDA 101



arn:aws:lambda:us-east-1:123456788990:function:ask_aws_commander

VOICE OPS: COMMAND AND CONTROL

```
{
  "version": "string",
  "session": {
    "new": boolean,
    "sessionId": "string",
    "application": {
      "applicationId": "string"
    },
    "attributes": {
      "string": object
    },
    "user": {
      "userId": "string",
      "accessToken": "string"
    }
  },
  "request": object
}
```

HTTP POST (JSON)



VOICE OPS: COMMAND AND CONTROL

```
{
  "version": "string",
  "session": {
    "new": boolean,
    "sessionId": "string",
    "application": {
      "applicationId": "string"
    },
    "attributes": {
      "string": object
    },
    "user": {
      "userId": "string",
      "accessToken": "string"
    }
  },
  "request": object
}
```

LaunchRequest

```
{
  "type": "LaunchRequest",
  "requestId": "string",
  "timestamp": "string"
}
```

VOICE OPS: COMMAND AND CONTROL

```
{
  "version": "string",
  "session": {
    "new": boolean,
    "sessionId": "string",
    "application": {
      "applicationId": "string"
    },
    "attributes": {
      "string": object
    },
    "user": {
      "userId": "string",
      "accessToken": "string"
    }
  },
  "request": object
}
```

IntentRequest

```
{
  "type": "IntentRequest",
  "requestId": "string",
  "timestamp": "string",
  "intent": {
    "name": "string",
    "slots": {
      "string": {
        "name": "string",
        "value": "string"
      }
    }
  }
}
```

```
{
  "version": "string",
  "session": {
    "new": boolean,
    "sessionId": "string",
    "application": {
      "applicationId": "string"
    },
    "attributes": {
      "string": object
    },
    "user": {
      "userId": "string",
      "accessToken": "string"
    }
  },
  "request": object
}
```

SessionEndedRequest

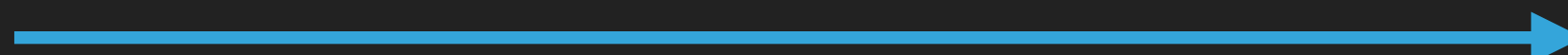
```
{
  "type": "SessionEndedRequest",
  "requestId": "string",
  "timestamp": "string",
  "reason": "string"
}
```

```
if request.type == "LaunchRequest":  
    launch_request_handler()  
  
elif request.type == "IntentRequest":  
    intent_request_handler(data)  
  
elif request.type == "SessionEndedRequest":  
    end_request_handler()  
  
else:  
    handle_unknown()
```

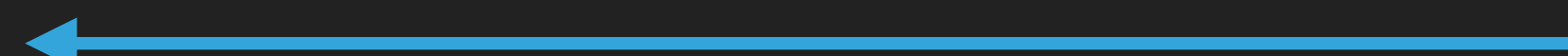
VOICE OPS: COMMAND AND CONTROL

```
{
  "version": "string",
  "session": {
    "new": boolean,
    "sessionId": "string",
    "application": {
      "applicationId": "string"
    },
    "attributes": {
      "string": object
    },
    "user": {
      "userId": "string",
      "accessToken": "string"
    }
  },
  "request": object
}
```

HTTP POST (JSON)

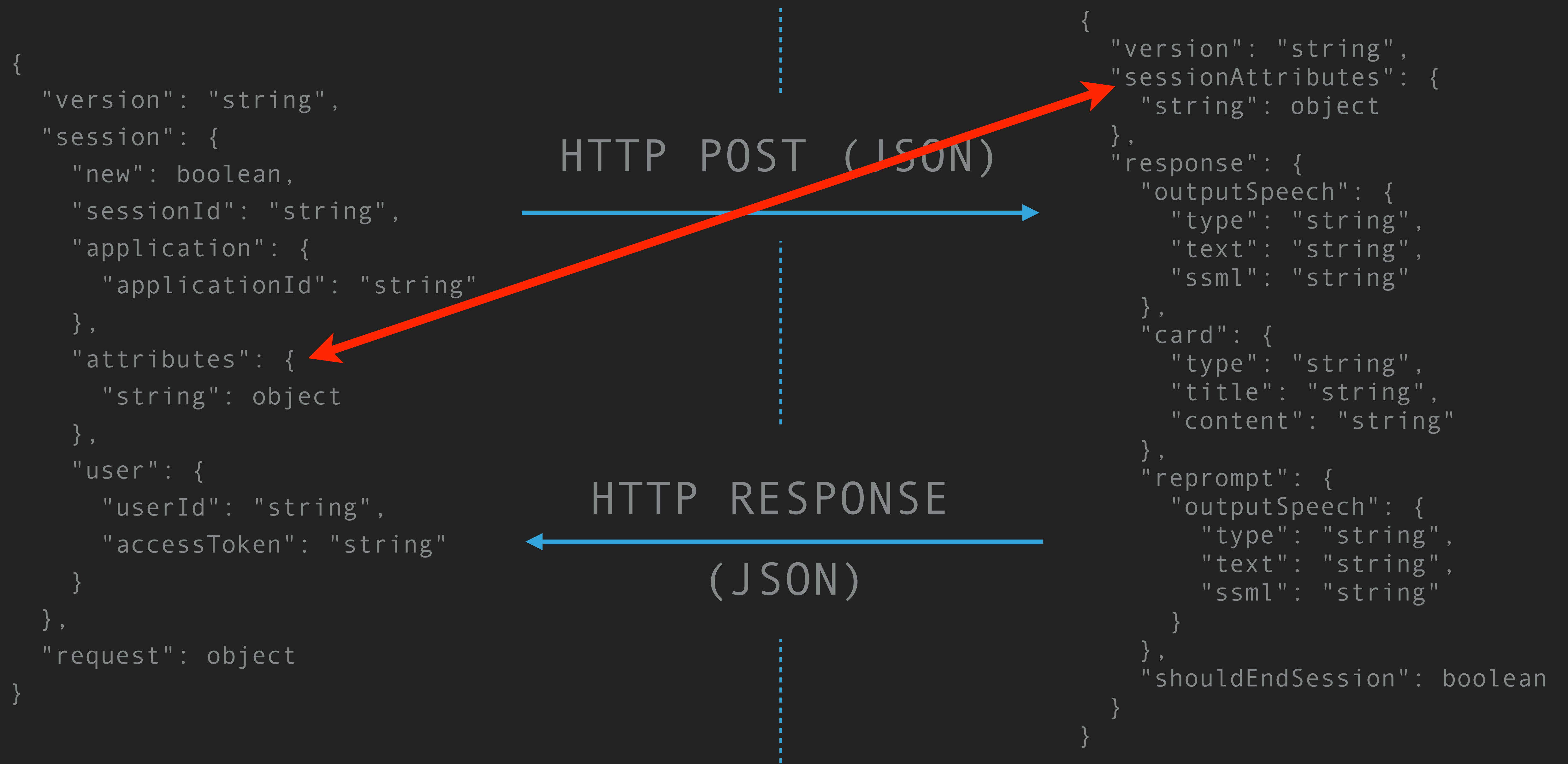


HTTP RESPONSE
(JSON)



```
{
  "version": "string",
  "sessionAttributes": {
    "string": object
  },
  "response": {
    "outputSpeech": {
      "type": "string",
      "text": "string",
      "ssml": "string"
    },
    "card": {
      "type": "string",
      "title": "string",
      "content": "string"
    },
    "reprompt": {
      "outputSpeech": {
        "type": "string",
        "text": "string",
        "ssml": "string"
      }
    },
    "shouldEndSession": boolean
  }
}
```

VOICE OPS: COMMAND AND CONTROL



SPEECH SYNTHESIS MARKUP LANGUAGE (SSML)

< speak >

Here is a number spoken as a cardinal number:

< say-as interpret-as="cardinal">12345</ say-as >.

Here is the same number with each digit spoken separately:

< say-as interpret-as="digits">12345</ say-as >.

Here is a word spelled out: < say-as interpret-as="spell-out">hello</ say-as >

You say, < phoneme alphabet="ipa" ph="pɪˈkɑːn">pecan</ phoneme >.

I say, < phoneme alphabet="ipa" ph="ˈpi.kæn">pecan</ phoneme >.

There is a three second pause here < break time="3s"/>

then the speech continues.

< p>This is the second paragraph, with an extra long break</ p>

Bub rub says the whistle go < audio src="https://lol.s3.amazonaws.com/woowoo.mp3" />

</ speak >

LAUNCH REQUEST EXAMPLE

```
{
  "version": "1.0",
  "session": {
    "new": true,
    "sessionId": "amzn1.echo-api.session.00000000-0000-0000-0000-000000000000",
    "application": {
      "applicationId": "amzn1.echo-sdk-ams.app.0000000-d0ed-0000-ad00-0000000d00ebe"
    },
    "attributes": {},
    "user": {
      "userId": "amzn1.account.AM3B000000000000000000000000000000"
    }
  },
  "request": {
    "type": "LaunchRequest",
    "requestId": "amzn1.echo-api.request.00000000-0000-0000-0000-000000000000",
    "timestamp": "2015-05-13T12:34:56Z"
  }
}
```

INTENT REQUEST EXAMPLE

```
{
  "version": "1.0",
  "session": {
    "new": false,
    "sessionId": "amzn1.echo-api.session.00000000-0000-0000-0000-000000000000",
    "application": {
      "applicationId": "amzn1.echo-sdk-ams.app.0000000-d0ed-0000-ad00-0000000d00ebe"
    },
    "attributes": {
      "supportedHoroscopePeriods": {
        "daily": true,
        "weekly": false,
        "monthly": false
      }
    },
    "user": {
      "userId": "amzn1.account.AM3B0000000000000000000000000000"
    }
  },
  "request": {
    "type": "IntentRequest",
    "requestId": " amzn1.echo-api.request.00000000-0000-0000-0000-000000000000",
    "timestamp": "2015-05-13T12:34:56Z",
    "intent": {
      "name": "GetZodiacHoroscopeIntent",
      "slots": {
        "ZodiacSign": {
          "name": "ZodiacSign",
          "value": "virgo"
        }
      }
    }
  }
}
```

RESPONSE EXAMPLE

```
{
  "version": "1.0",
  "sessionAttributes": {
    "supportedHoroscopePeriods": {
      "daily": true,
      "weekly": false,
      "monthly": false
    }
  },
  "response": {
    "outputSpeech": {
      "type": "PlainText",
      "text": "Today will provide you a new learning opportunity. Stick with it and the possibilities will be endless. Can I help you with anything else?"
    },
    "card": {
      "type": "Simple",
      "title": "Horoscope",
      "content": "Today will provide you a new learning opportunity. Stick with it and the possibilities will be endless."
    },
    "reprompt": {
      "outputSpeech": {
        "type": "PlainText",
        "text": "Can I help you with anything else?"
      }
    }
  },
  "shouldEndSession": false
}
```

SESSION ENDED REQUEST EXAMPLE

```
{
  "version": "1.0",
  "session": {
    "new": false,
    "sessionId": "amzn1.echo-api.session.00000000-0000-0000-0000-000000000000",
    "application": {
      "applicationId": "amzn1.echo-sdk-ams.app.0000000-d0ed-0000-ad00-0000000d00ebe"
    },
    "attributes": {
      "supportedHoroscopePeriods": {
        "daily": true,
        "weekly": false,
        "monthly": false
      }
    },
    "user": {
      "userId": "amzn1.account.AM3B0000000000000000000000000000"
    }
  },
  "request": {
    "type": "SessionEndedRequest",
    "requestId": "amzn1.echo-api.request.00000000-0000-0000-0000-000000000000",
    "timestamp": "2015-05-13T12:34:56Z",
    "reason": "USER_INITIATED"
  }
}
```

PYASK

```
r = Response(should_end=False)
r.set_output_speech(speech_type="SSML", speech_text="Hello There")
r.set_card(card_type="Simple", card_title="Hey", card_content="Here are the details.")
r.set_reprompt(speech_type="SSML", speech_text="Want to do this again?")

return print r.response_body
```

<https://github.com/broamski/pyask>

TESTING YOUR SKILL

- ▶ Register your skill
- ▶ Build your skill
- ▶ Enable Test
- ▶ Test by viewing JSON Request/Response w/speech
- ▶ Enable Testing on actual Echo device

**WE HAVE THE TOOLS,
WE HAVE THE TALENT**

DEMO: AWS BILL REPORT

```
{  
  "intent": "GetAWSBill"  
},
```

GetAWSBill get my AWS bill

GetAWSBill load my AWS bill

GetAWSBill load my bill

GetAWSBill get my bill

GetAWSBill get my current bill

GetAWSBill what's my aws bill

DEMO: REGIONAL FAILOVER

```
{
  "intent": "RegionFailover",
  "slots": [
    {
      "name": "Region",
      "type": "LIST_OF_REGIONS"
    },
    {
      "name": "RegionOne",
      "type": "LIST_OF_REGIONS"
    },
    {
      "name": "RegionTwo",
      "type": "LIST_OF_REGIONS"
    },
    {
      "name": "WeightOne",
      "type": "AMAZON.NUMBER"
    },
    {
      "name": "WeightTwo",
      "type": "AMAZON.NUMBER"
    }
  ]
},
```

- RegionFailover make {Region} my primary region
- RegionFailover failover to {Region}
- RegionFailover set {RegionOne} to {WeightOne} and {RegionTwo} to {WeightTwo}
- RegionFailover weigh {RegionOne} to {WeightOne} and {RegionTwo} to {WeightTwo}
- RegionFailover weigh {RegionOne} to {WeightOne} and weigh {RegionTwo} to {WeightTwo}
- RegionFailover weigh {RegionOne} at {WeightOne} and {RegionTwo} at {WeightTwo}
- RegionFailover weigh {RegionOne} at {WeightOne} and weigh {RegionTwo} at {WeightTwo}

DEMO: SYSTEM SCALING

```
{
  "intent": "ASGAdjuster",
  "slots": [
    {
      "name": "ScaleAction",
      "type": "SCALE_ACTIONS"
    },
    {
      "name": "ClusterTag",
      "type": "SCALE_ACTIONS"
    },
    {
      "name": "ScaleNumber",
      "type": "AMAZON.NUMBER"
    }
  ]
},
```

ASGAdjuster scale {ClusterTag} cluster {ScaleAction} by {ScaleNumber}
ASGAdjuster scale the {ClusterTag} cluster {ScaleAction} by {ScaleNumber}

DEMO: EBS SNAPSHOTS

```
{  
  "intent": "Snapshotter",  
  "slots": [  
    {  
      "name": "ShapshotTag",  
      "type": "SSHOT_TAG"  
    }  
  ]  
},
```

Snapshotter perform a snapshot of all volumes

Snapshotter snapshot all volumes

Snapshotter perform a snapshot of all instances tagged with {ShapshotTag}

DEMO: APP DEPLOYER

```
"intent": "AppDeployer",  
"slots": [  
  {  
    "name": "AppVersionMajor",  
    "type": "AMAZON.NUMBER"  
  },  
  {  
    "name": "AppVersionMinor",  
    "type": "AMAZON.NUMBER"  
  }  
],  
},
```

AppDeployer deploy version {AppVersionMajor} {AppVersionMinor}

DEMO: SECURITY REPORT

```
{  
  "intent": "SecurityReport"  
},
```

SecurityReport load my security report
SecurityReport give me my security report
SecurityReport security report

DEMO: CLOUDWATCH ALARM REPORT

```
{  
  "intent": "AlarmReport"  
},
```

AlarmReport what are my current alarms

AlarmReport are there any alarms

AlarmReport give an alarm report

AlarmReport give me a cloud watch alarm report

AlarmReport give me my cloud watch alarm report

MISC IDEAS

- ▶ Sever all internet connectivity

RESOURCES

- ▶ <https://github.com/broamski/docker-awstools>

BRIAN NUSZKOWSKI

@NUSZKOWSKI

BRIAN@MFDT.DE

VOICE OPS

COMMAND AND CONTROL