

# Deploy your bot to Slack and other social channels

IBM Code

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# Watson Assistant

IBM Cloud

Catalog

Docs

Support

Manage

Search for resource...

UPKAR LIDDER's Acco...



## Catalog

Search the catalog...

Filter

### All Categories

Compute  
Containers  
Networking  
Storage  
**AI**

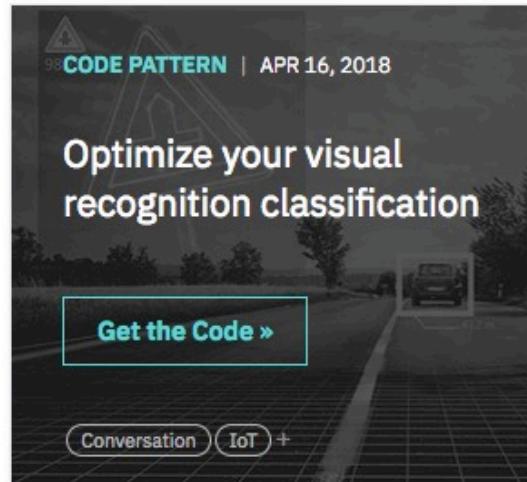
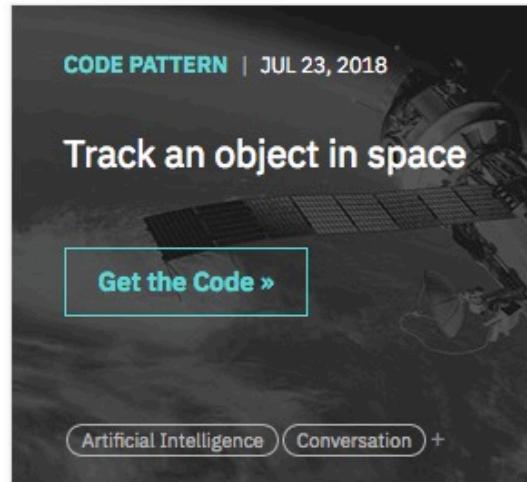
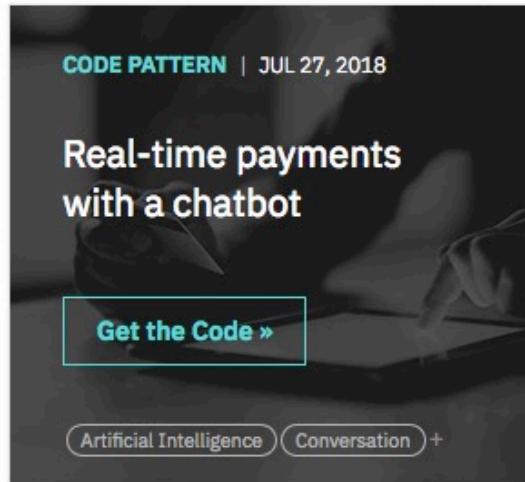
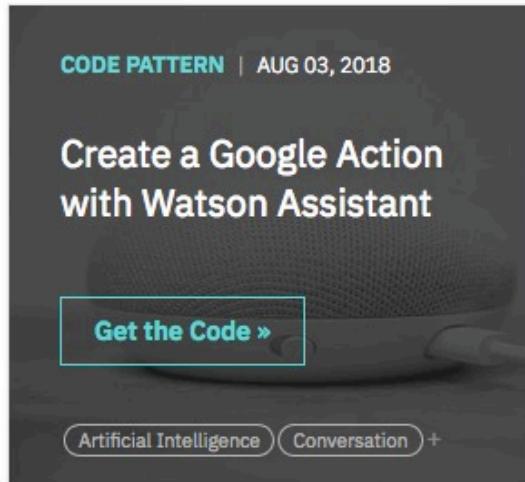
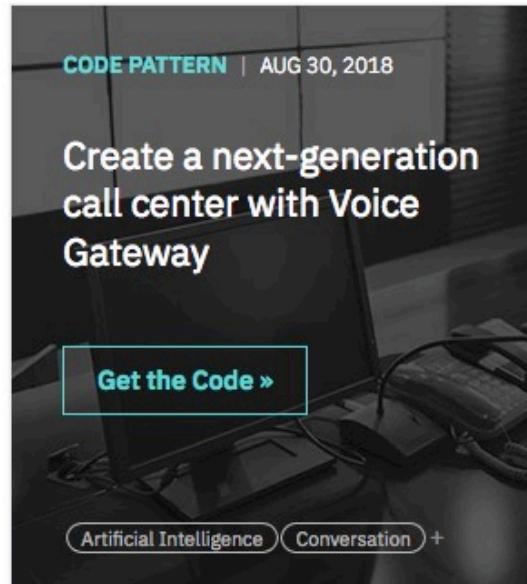
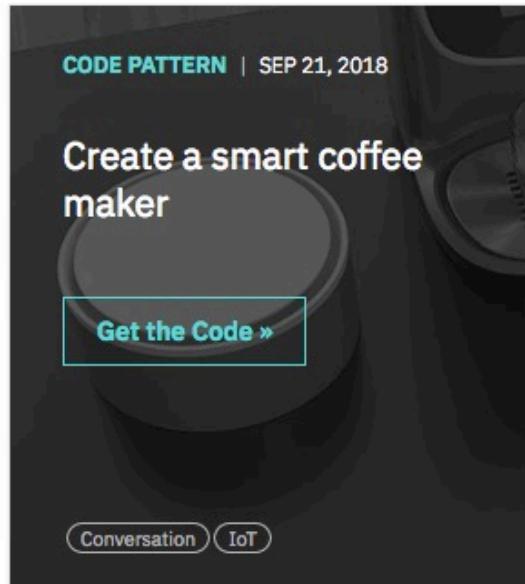
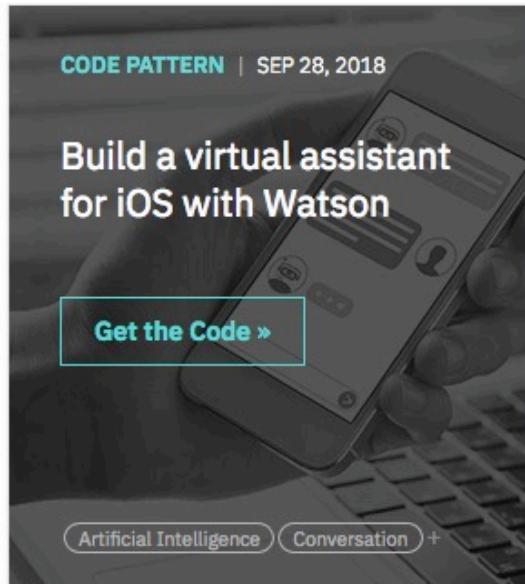
Analytics  
Databases  
Developer Tools  
Integration  
Internet of Things  
Security and Identity  
Starter Kits  
Web and Mobile  
Web and Application

### AI

<p><b>Watson Assistant (formerly Conversation)</b> Lite • IBM</p> <p>Add a natural language interface to your application to automate interactions with your end users. Common applications inclu...</p>	<p><b>AI OpenScale</b> Lite • IBM</p> <p>IBM AI OpenScale is an enterprise-grade environment for AI infused applications that provides enterprises with visibility into how...</p>	<p><b>Compare Comply</b> IBM • Beta</p> <p>Process governing documents to convert, identify, classify, and compare important elements</p>	<p><b>Discovery</b> Lite • IBM</p> <p>Add a cognitive search and content analytics engine to applications.</p>	<p><b>Knowledge Catalog</b> Lite • IBM</p> <p>Discover, catalog, and securely share enterprise data.</p>
<p><b>Knowledge Studio</b> Lite • IBM</p> <p>Teach Watson the language of your domain.</p>	<p><b>Language Translator</b> Lite • IBM</p> <p>Translate text, documents, and websites from one language to another. Create industry or region-specific translations via...</p>	<p><b>Machine Learning</b> Lite • IBM</p> <p>IBM Watson Machine Learning - make smarter decisions, solve tough problems, and improve user outcomes.</p>	<p><b>Natural Language Classifier</b> IBM</p> <p>Natural Language Classifier performs natural language classification on question texts. A user would be able to train their data and th...</p>	<p><b>Natural Language Understanding</b> Lite • IBM</p> <p>Analyze text to extract meta-data from content such as concepts, entities, emotion, relations, sentiment and more.</p>
<p><b>Personality Insights</b> Lite • IBM</p> <p>The Watson Personality Insights derives insights from transactional and social media data to identify psychological traits</p>	<p><b>Speech to Text</b> Lite • IBM</p> <p>Low-latency, streaming transcription</p>	<p><b>Text to Speech</b> Lite • IBM</p> <p>Synthesizes natural-sounding speech from text.</p>	<p><b>Tone Analyzer</b> Lite • IBM</p> <p>Tone Analyzer uses linguistic analysis to detect three types of tones from communications: emotion, social, and...</p>	<p><b>Visual Recognition</b> Lite • IBM</p> <p>Find meaning in visual content! Analyze images for scenes, objects, faces, and other content. Choose a default model off the she...</p>
<p><b>Watson Studio</b> Lite • IBM</p> <p>Embed AI and machine learning into your business. Create custom models using your own data.</p>	<p><b>PowerAI</b> Third Party</p> <p>The accelerated deep learning platform for enterprise. Built on the IBM PowerAI platform, powered by Nimbix.</p>			

FEEDBACK

# Code Patterns



# Quick recap - I

Intents Entities Dialog Content Catalog

Add intent   

- Intent (20) ▾
- #ask\_conf\_venue
- #ask\_day\_care
- #ask\_general
- #ask\_health
- #ask\_meal\_times
- #ask\_random\_talk
- #ask\_register
- #ask\_track
- #General\_About\_You
- #General\_Agent\_Capabilities
- #General\_Connect\_to\_Agent
- #General\_Ending
- #General\_Greetings
- #General\_Human\_or\_Bot
- #General\_Jokes
- #General\_Negative\_Feedback
- #General\_Positive\_Feedback

Intents Entities Dialog Content Catalog

Entities    

My entities System entities

Add entity   

Entity (2) ▾

	Values
<input type="checkbox"/> @email	email_syntax
<input type="checkbox"/> @track	C/C++, WebAPI, Ethereum, Compiling, Scala, knowledge manage

Intents Entities Dialog Content Catalog

Add node  

conference-original

- Welcome welcome 1 Response / 0 Context set / Does not return
- > about\_me #General\_About\_You 1 Response / 0 Context set / Jump to
- general\_response #ask\_general 1 Response / 0 Context set / Does not return
- ask\_register #ask\_register 1 Response / 4 Context set / 4 Slots / Does not return
- > general\_conf #ask\_conf\_venue or #ask\_health or #ask\_day\_care 3 Dialog nodes / Returns
- > ask\_random\_talk #ask\_random\_talk 0 Responses / 1 Context set / Skip user input

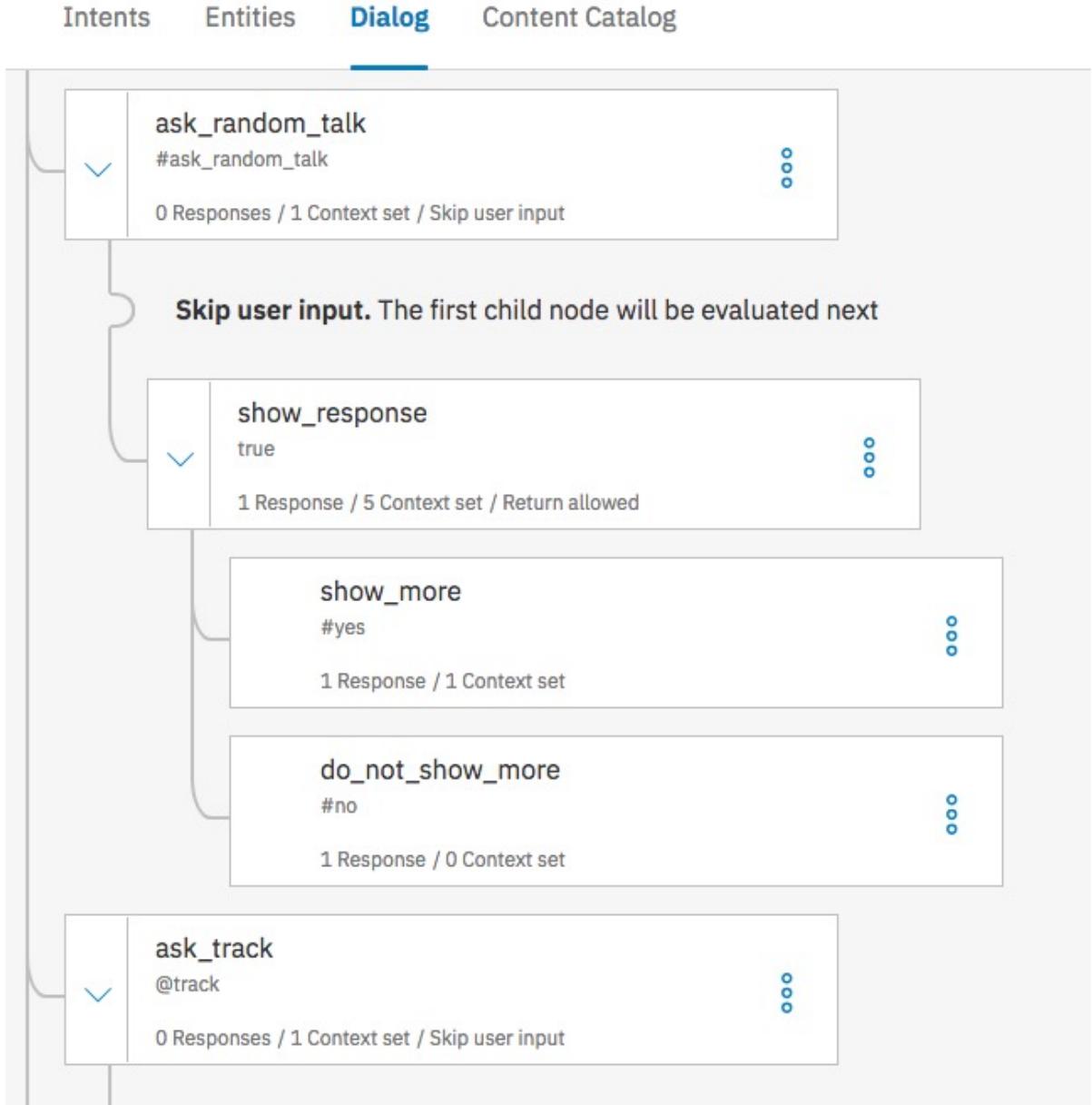
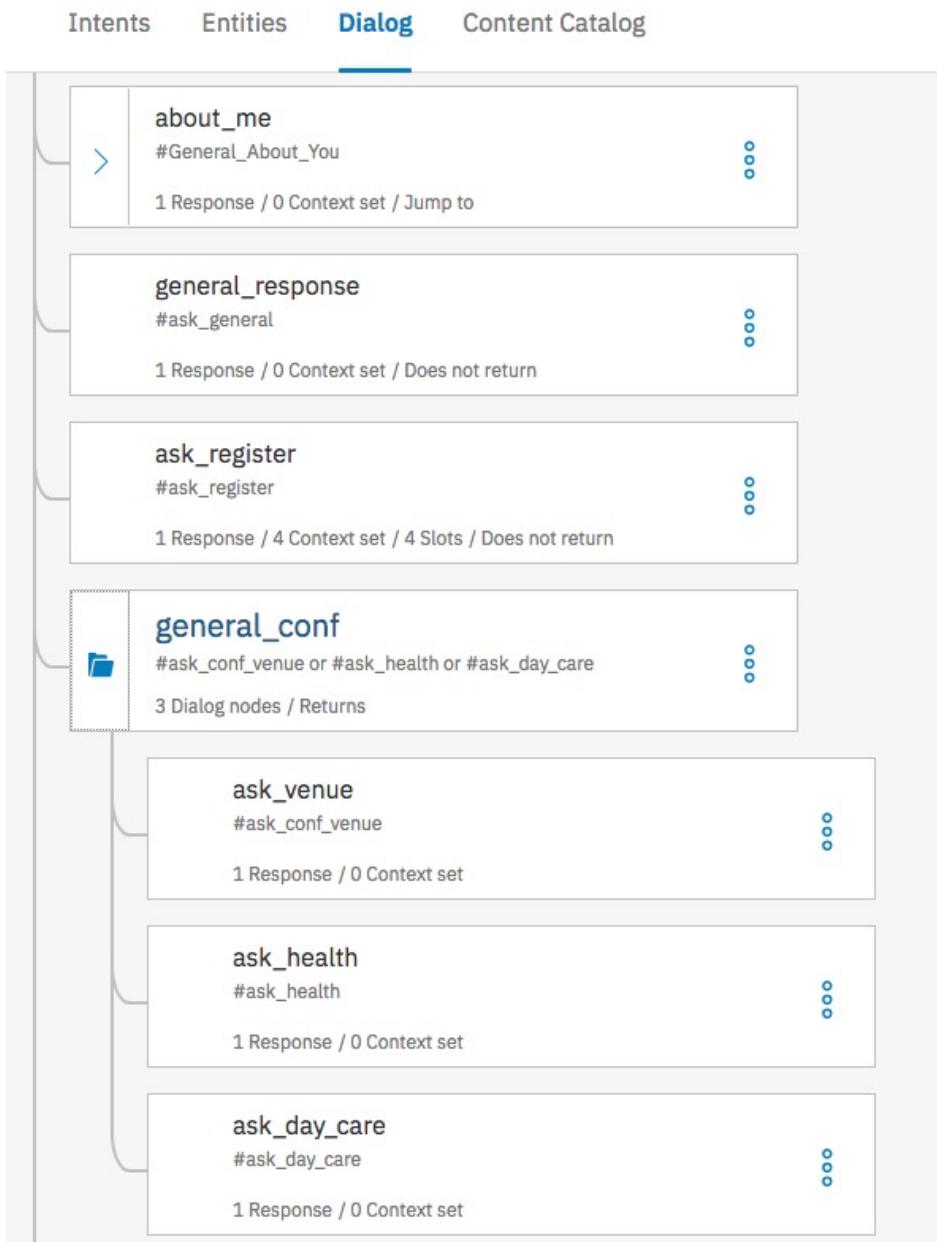
# Quick recap - II

The screenshot shows the homepage of the Silicon Valley Code Camp website. At the top, it displays the event details: "OCTOBER 13 & 14, 2018" and "Hosted by PayPal". Below this, there's a banner for "SESSIONS" with a count of "98 SESSIONS ACCEPTED". A sidebar on the left lists "JOBS", "SPONSORS", "NEWS", and "ABOUT". The main content area features a "SESSIONS" section with a video player for "Instructional Video For Session Planning" and a "FILTERS" section for "Day" (Saturday, Sunday) and "Time" (5:00 PM, 9:15 AM, 10:45 AM, 12:45 PM, 2:15 PM, 3:30 PM). It also includes a "BECOME A SPONSOR" section with logos for various sponsors like Grapeshot, Twilio, Agorae, Pluralsight, Wowza, and IBM. The "JOB POSTS" section lists several positions such as Senior Software Engineer (Backend), Senior Software Engineer (Front-End Application), Senior Java Software Engineer, and Senior iOS Engineer. The "NEWS" section has links to articles from October 17, 11, and 10, 2018.

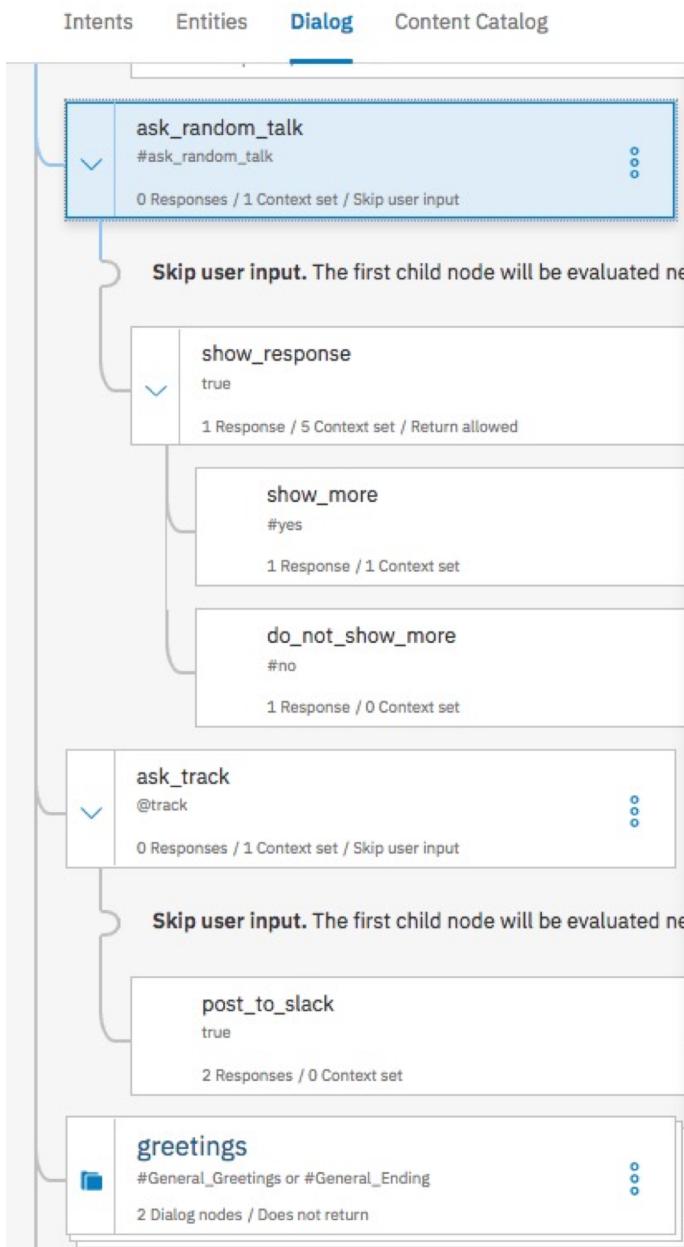
The screenshot shows a document management interface for a "conference" document. The interface includes a sidebar with navigation links: "All Documents", "Query", "Permissions", "Changes", and "Design Documents". The main area displays a JSON document with the ID "723f053652de604d48fc9a78b2e059a9". The JSON content describes a session titled "Accelerating Android Development with Google..." by Siamak Ashrafi, scheduled for 3:30 PM on Sunday in Town Square A. The document also contains a detailed description of Jetpack, its components, and its benefits for Android app development. The JSON structure includes fields for id, key, value, doc, author, author\_desc, author\_img, desc, and date\_time.

```
{
  "id": "723f053652de604d48fc9a78b2e059a9",
  "key": "723f053652de604d48fc9a78b2e059a9",
  "value": {
    "rev": "1-7fcfd2481f4e9b0a198d6add459bff05"
  },
  "doc": {
    "_id": "723f053652de604d48fc9a78b2e059a9",
    "_rev": "1-7fcfd2481f4e9b0a198d6add459bff05",
    "author": "Siamak Ashrafi",
    "author_desc": "(Ash) is Bio-Computational researcher@day working on bio-markers (publications*) & CTO@night of technology companies (patents*). His frequent code-a-thon wins have gone on to become published Apps (iOS & Android*). As a thought leader in wearable/mobile development he is an enthusiastic teacher / speaker helping to promote the ecosystem (fashion* & technology*). But what he would really like is to get a major sponsor in all three phases of water. (Snowboarding* [solid], Surfing* [Liquid] & Kiteboarding* [vapor])",
    "author_img": "https://www.siliconvalley-codecamp.com/attendeeimage/20140613181411-410.jpg?format=jpg&width=135&height=135&scale=both&mode=pad&Bgcolor=F6F4F6",
    "url": "https://www.siliconvalley-codecamp.com/Session/2018/accelerating-android-development-with-google-jetpack",
    "title": "Accelerating Android Development with Google Jetpack",
    "desc": "For the first time, the Android Team is proposing an architecture for Android. This is a significant shift from the past where The Android Team did not give any direction or advice on how to structure an Android App. This led to lots of confusion and poorly designed Apps. Now they are not only giving comprehensive guidance but have a reference implementation that they believe are best practices. Android developers should learn and adopt these components before writing another App. \\"Jetpack is a collection of Android software components to make it easier for you to develop great Android apps. These components help you follow best practices, free you from writing boilerplate code, and simplify complex tasks, so you can focus on the code you care about.\\" - Google Android Team Jetpack covers all four major parts of Android development:1) Foundation components provide core system capabilities, Kotlin extensions and support for multidex and automated testing.2) Architecture components have classes that help manage your UI component lifecycle, handle data persistence, and more.3) Behavior Components help you design robust, testable, and maintainable apps.4) UI components make it easy for you to make your app not only easy, but delightful to use. This session covers all areas of Android development using Jetpack.\nDownload instructions to be prepared for this class\n\nDownload the speaker slides and material",
    "date_time": "3:30 PM Sunday",
    "tags": [
      "Android",
      "Architecture",
      "Design Patterns",
      "functional programming",
      "Google",
      "Kotlin",
      "Mobile"
    ]
  }
}
```

# Quick recap - II



# Quick recap - II



```
1 {
2   "context": {
3     "my_creds": {
4       "user": "████████████████████",
5       "password": "████████████████"
6     }
7   },
8   "output": {
9     "generic": []
10 },
11 "actions": [
12   {
13     "name": "upkar.ibm.watson@gmail.com_dev/actions/confbot/confbot-get-random-talk",
14     "type": "server",
15     "credentials": "$my_creds",
16     "result_variable": "context.my_input_returned"
17   }
18 ]
19 }
```

Then set context:

Variable	Value
\$author	"<? \$my_input_returned.output.do
\$author_desc	"<? \$my_input_returned.output.do
\$talk_desc	"<? \$my_input_returned.output.do

And respond with:

Move:

<b><? \$my\_input\_returned.output.docs.get(0).author ?></b> talking on <u><i><? \$title ?></i></u> at <? \$time ?>

Enter response variation

Response variations are set to **sequential**. Set to **random | multiline**

# Quick recap - II

Functions / Actions / confbot-get-random-talk

Region: US South Org: upkar.ibm.watson@gmail.com

confbot/confbot-get-random-talk Web Action Space: dev

Code

Parameters

Runtime

Endpoints

Connected Triggers

Enclosing Sequences

Logs

Code Node.js 8

Edit mode - press ESC to exit

Change Input Invoke

```
10 const Cloudant = require("@cloudant/cloudant");
11
12 function main(params) {
13   const cloudant = Cloudant({ account: params.user, password: params.password });
14   const conferenceDb = cloudant.use(params.database);
15
16   return new Promise(function (resolve, reject) {
17     var randomQuery = {
18       selector: {
19         _id: {
20           $gt: 0
21         }
22       },
23       fields: ["author", "author_desc", "title", "desc", "date_time", "tags"],
24       limit: 1,
25       skip: getRandom(0, 100)
26     };
27
28     conferenceDb.find(randomQuery, function (err, result) {
29       if (err) {
30         console.log(err);
31         reject(err);
32       }
33
34       if (result.docs.length < 1) {
35         resolve({ "output": "No results found." });
36       } else {
37         console.log(result);
38         resolve({ "output": result });
39       }
40     });
41   });
42
43   function getRandom(start, end) {
44     return Math.floor(Math.random() * end) + start;
45   }
46
47 }
48
```

Activations

Collaps Clear

▼ confbot-get-random-talk 570 ms 10/30/2018, 19:25:04

**Activation ID:**  
746dc27a659f4192adc27a659fc1927a

**Results:**

```
{
  "output": {
    "docs": [
      {
        "author": "Craig Berntson",
        "desc": "We've heard about clean code for years, but what about clean architecture. In this session you will learn how to improve developer productivity by using clean architecture concepts. Topics to be discussed:- Understand function, components, and data separation- Determine what's important and what isn't- Defining boundaries and layers- Organizing components and services- And more",
        "tags": [
          "Architecture",
          "Modular Architecture",
          "Productivity"
        ],
        "date_time": "9:30 AM Saturday",
        "title": "Clean Architecture",
        "author_desc": "Craig has a passion for community and helping other developers improve their skills. He writes the column \"Software Gardening\" in DotNet Curry Magazine and is the co-author of \"Continuous Integration in .NET\" available from Manning. He works as a Senior Software Engineer at HealthEquity."
      }
    ],
    "bookmark": "g1AAAABweJzLYWBgYMpgSmHgKy5JLCrJTq2MT8lPzkzJBYormBsZpxmYGpuZGqWkmhmYpJhYpCVbJppbJBmlGqSYmieB9HHA9BG1IwsAiYseIw",
    "warning": "no matching index found, create an index to optimize query time"
  }
}
```

8

# Quick recap - II

Try it out    Clear    Manage Context 8    X

Hello ! Welcome to the conference. ⬤

Who is talking ?  
#ask\_random\_talk

Aaron Sahagun talking on Which Agile Framework Will Increase the ROI of My Company? at 12:45 PM Sunday ⬤

Would you like to know more ?

Sure  
#yes

Great ! Here are the details ⬤  
Author: Aaron Sahagun  
I am the group manager/section manager for the Technical Program Management Office (TPMO) Section/Group at Kyocera in the SF East Bay. Agile Certified Practitioner (PMI-ACP), Certified Scrum Master (CSM) & Certified

Welcome to the Conference. I am your official 🎖️! I will try my best to help 🙏

You can ask me about speakers, sessions or other conference details.

Who is talking ?

Marek Sadowski talking on Serverless and Containers in the Cloud Age at 2:15 PM

Saturday

Would you like to know more ?

Sure !

Great ! Here are the details

Author: Marek Sadowski

Marek Sadowski is a full stack developer advocate, a robotics startup founder and an entrepreneur. He has about 20 year experience in consulting largest enterprises in USA, Europe, Middle East and Africa as a senior engineer and an IT architect in mobile, web, Java and integration technologies. As a graduate from the International Space University Marek pioneered in a research on VR goggles for the virtual reality system to control robots on Mars in NASA Ames. He founded a startup to deliver robotics solutions and services for space, military, and industrial sectors. Marek moved to Silicon Valley to promote IoT and robotics solutions driven in Swift, Node.js, Node.RED by mobile, AI and Cloud.

Watson understands

```
1 {
2   "intents": [
3     {
4       "intent": "yes",
5       "confidence": 1
6     }
7   ],
8   "entities": [],
9   "input": {
10     "text": "Sure !"
11   },
12   "output": {
13     "text": [
14       "Great ! Here are the details",
15       "Author: Marek Sadowski",
16       "Marek Sadowski is a full stack developer",
17       "Talk: Using the container technology is one of the ways to deploy your application on the internet, the other options include using cloud native applications - PaaS, or alternatively by removing entire middleware overhead and using so called Serverless aka FaaS. During this talk you will learn what it takes to build an application with containers based on the open source Docker and Kubernetes.",
18       "Furthermore you will be able to experience Serverless application. Finally you will get some introduction into a cloud application based on the Cloudfoundry Platform as a Service. Download instructions to be prepared for this class Download the speaker slides and material"
19     ],
20     "node_visited": [
21       "node_4_1538512374597"
22     ],
23     "log_messages": []
24   },
25   "context": {
26     "conversation_id": "fb9949b-b397-4db4-af5c-4a2a2a2a2a2a",
27     "system": {
28       "initialized": true,
29       "dialog_stack": [
30         {
31           "dialog_node": "root"
32         }
33       ],
34       "dialog_turn_counter": 3,
35       "dialog_request_counter": 3,
36       "node_output_map": {}
37     }
38   }
39 }
```

University Marek pioneered in a research on VR goggles for the virtual reality system to control robots on Mars in NASA Ames. He founded a startup to deliver robotics solutions and services for space, military, and industrial sectors. Marek moved to Silicon Valley to promote IoT and robotics solutions driven in Swift, Node.js, Node.RED by mobile, AI and Cloud.

Talk: Using the container technology is one of the ways to deploy your application on the internet, the other options include using cloud native applications - PaaS, or alternatively by removing entire middleware overhead and using so called Serverless aka FaaS. During this talk you will learn what it takes to build an application with containers based on the open source Docker and Kubernetes. Furthermore you will be able to experience Serverless application. Finally you will get some introduction into a cloud application based on the Cloudfoundry Platform as a Service. Download instructions to be prepared for this class Download the speaker slides and material

Do you have anything on python ?

Looks like you are looking for sessions on Python. We found 3 sessions.

- **Tony Nguyen:** Machine learning using the Keras Python library
- **Peter Thoeny:** Regular Expressions, To Match Or Not, That is the Question
- **Sidharth Rajaram:** Web Scraping with Python

# Watson Assistant Expression Language

## Arrays

`JSONArray.append(object)`

`JSONArray.clear()`

`JSONArray.contains(object value)`

`JSONArray.getRandomItem()`

`JSONArray.join(string delimiter)`

`JSONArray.remove(integer)`

`JSONArray.size()`

## Date and Time

`.after(String date or time)`

`.before(String date or time)`

`now()`

## Numbers

`java.lang.Math()`

`java.lang.Byte`

`java.lang.Integer`

`java.lang.Long`

`java.lang.Double`

`java.lang.Short`

`java.lang.Float`

`java.util.Random()`

## Objects

`JSONObject.clear()`

`JSONObject.has(string)`

## Strings

`String.append(object)`

`String.contains(string)`

`String.endsWith(string)`

`String.find(string regexp)`

`String.isEmpty()`

# Watson Assistant API

Watson

Get Started Free

Sign in to IBM Cloud

Create counterexample  
Get counterexample  
Update counterexample  
Delete counterexample

## Entities

List entities  
Create entity  
Get entity  
Update entity  
Delete entity

## Mentions

List entity mentions

## Values

List entity values  
Add entity value  
Get entity value  
Update entity value  
Delete entity value

## Synonyms

List entity value synonym  
Add entity value synonym  
Get entity value synonym  
Update entity value synonym  
Delete entity value synonym

## Dialog nodes

List dialog nodes  
Create dialog node  
Get dialog node  
Update dialog node  
Delete dialog node

## REQUEST

```
listValues(params, callback())
```

### Parameter Description

workspace\_id Unique identifier of the workspace.  
string  
required

entity The name of the entity.  
string  
required

export Whether to include all element content in the returned data. If **export=false**, the returned data includes only information about the element itself. If **export=true**, all content, including subelements, is included.  
boolean  
default: false

page\_limit The number of records to return in each page of results.  
number  
default: 100

include\_count Whether to include information about the number of records returned.  
boolean  
default: false

sort The attribute by which returned results will be sorted. To reverse the sort order, prefix the value with a minus sign (-).  
string

Curl

Node

Java

Python

```
var watson = require('watson-developer-cloud');
```

```
var assistant = new watson.AssistantV1({  
  username: '{username}',  
  password: '{password}',  
  version: '2018-09-20'  
});
```

```
var params = {  
  workspace_id: '9978a49e-ea89-4493-b33d-82298d3db20d',  
  entity: 'beverage'  
};
```

```
assistant.listValues(params, function(err, response) {  
  if (err) {  
    console.error(err);  
  } else {  
    console.log(JSON.stringify(response, null, 2));  
  }  
});
```

# Deployment

## One click deployment

Deploy Options   Credentials

---

Deploy with Cloud Functions ⓘ

Depending on your chat volume, additional costs may apply. [Learn more ↗](#)



Slack

Deploy this workspace to Slack using your own app.

[Deploy](#)



Facebook Messenger

Deploy this workspace to Messenger using your own app.

[Deploy](#)



Web app

Deploy this workspace to a URL that you can share with anyone.

Coming soon

## Manual deployment



<https://github.com/howdyai/botkit>

# Demo



**Upkar** 8:33 AM

Pasted image at 2018-10-31, 8:33 AM ▾



**upkar-botkit-1** APP 8:33 AM

Looks like you sent me a picture. I am sending it to Watson for further analysis ...

Here are the results

Watson Assistant

**IBM Watson Assistant**

The image classifies as the following based on the general default model:

**person**

0.8

**professional football**

0.581

**contact sport**

0.71

**sport**

0.862

**athletic game**

0.672

**goal**

0.511

**soccer**

0.508

**outdoor game**

0.505

**soccer player**

0.5

**claret red color**

0.805

**greenishness color**

0.585

AI Conference Bot

# IBM Code SF – Upcoming Events

1 NOV Thursday, November 1, 2018, 9:30 AM

## Online Meetup: A guide to developing applications with...

Hosted by Lisa Jung



Register NOW at Crowdcast <https://www.crowdcast.io/e/online-meetup-a-guide-to> Want to learn more about Hyperledger and Blockchain? Join our online meetup with IBM Developer Advocate, Lennart Frantzell to learn about developing applications with Hyperledger and Blockchain. In this online Meetup you will learn:...  
51 going

Attend Organizer tools ▾

Needs a location 2 comments

6 NOV Tuesday, November 6, 2018, 9:30 AM

## Online Meetup: Securing Containers with Istio

Hosted by Lisa Jung



Sign up NOW at Crowdcast: <https://www.crowdcast.io/e/online-meetup-securing-istio> is an open source software that connects, manages, and secures containerized applications. Think about Istio as a smart load balancer, with policy enforcing, bulletproof testing across technologies, secure management, and built-in tools for...  
11 going

Attend Organizer tools ▾

Needs a location

1 NOV Thursday, November 1, 2018, 12:00 PM

## Lunch & Learn - Quantum Computing and IBM Q: An...

Hosted by Lisa Jung



Join us for lunch and learn about quantum computing! Though early in its development, quantum computing is now available on real hardware via the cloud through IBM Q. This radically new kind of computing holds open the possibility of solving some problems that are now and perhaps always will be intractable for "classical"...  
71 going

Attend Organizer tools ▾

Galvanize San Francisco - Soma  
44 Tehama St, San Francisco, CA 94105 · San Francisco, CA

6 NOV Tuesday, November 6, 2018, 11:00 AM

## Online Meetup: Continuously improve your Watson Bot using...

Hosted by Max Katz



\*\*\* Please register at <https://www.crowdcast.io/e/continuously-improve> Now that you have a bot live and deployed to your favorite social media, how can you continue to gather user feedback and improve your conversation? How can the bot start to learn new terminology and content using your help? We will look at the vario...  
You + 22 going

Attend Organizer tools ▾

Needs a location

# THANK YOU

Upkar Lidder, IBM Developer Advocate

@lidderupk

<https://www.linkedin.com/in/lidderupk/>

ulidder@us.ibm.com