

Empower your chatbot and add a personality

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

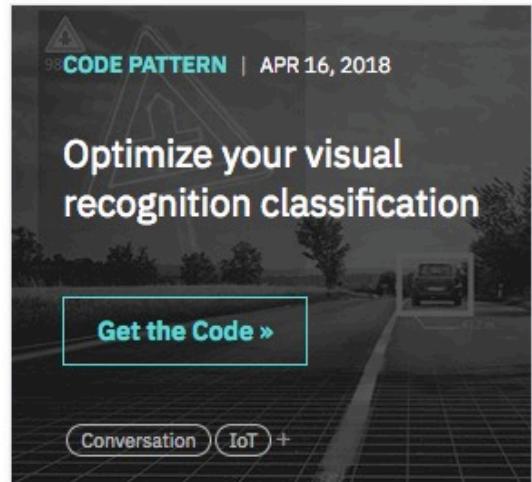
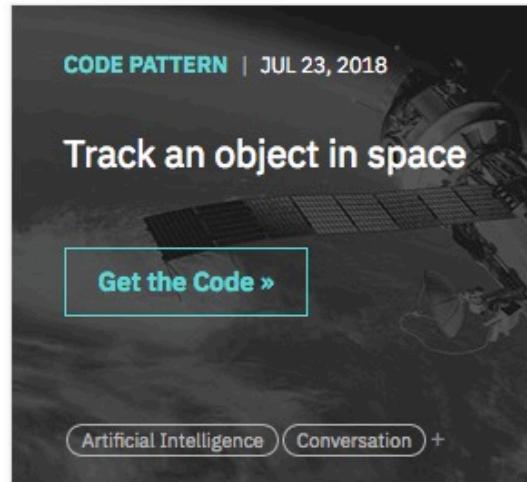
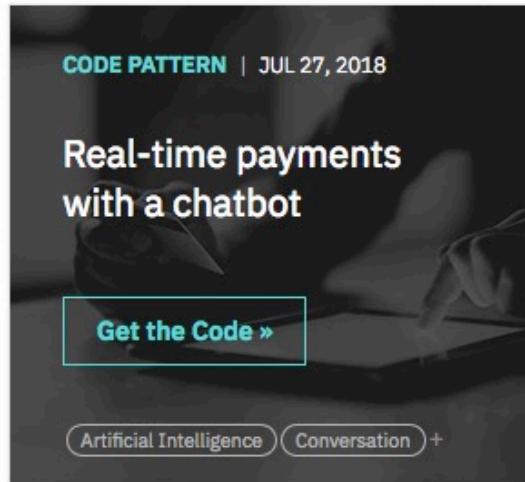
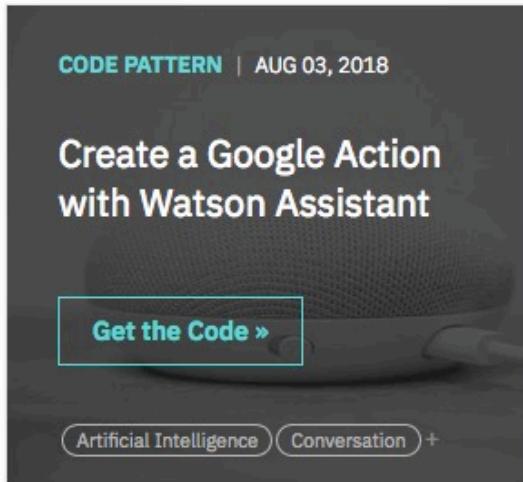
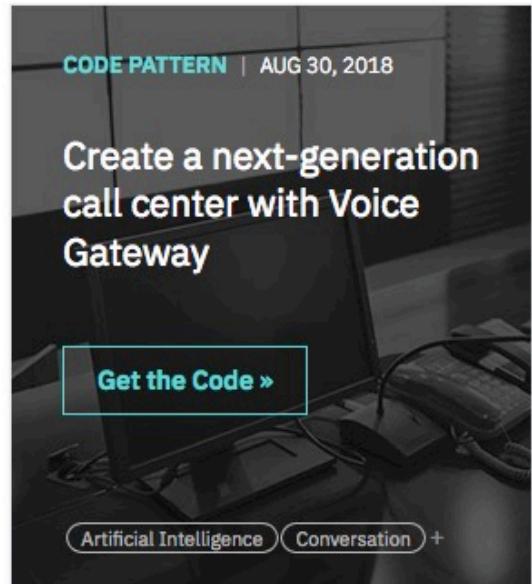
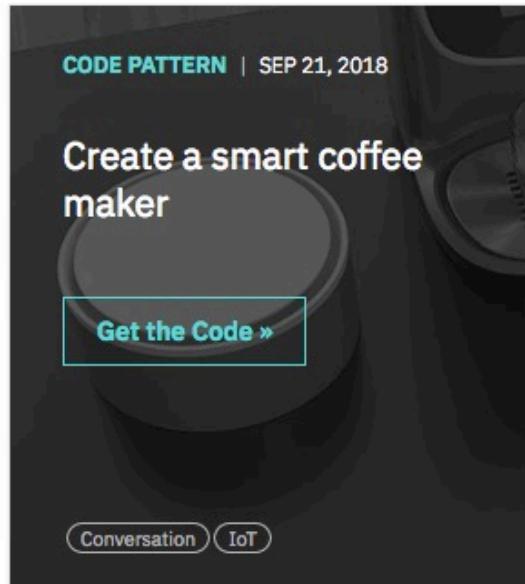
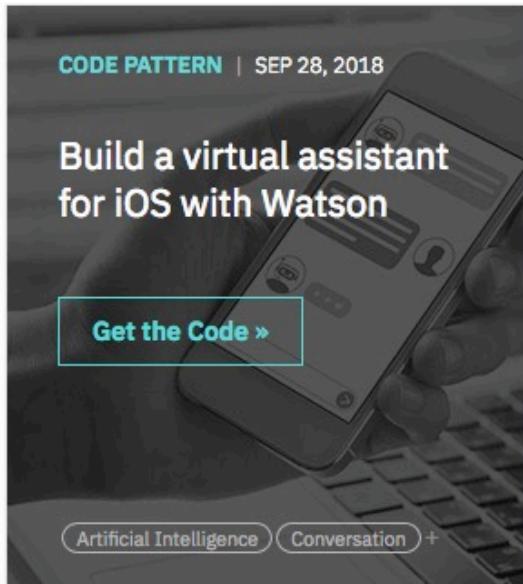
Analytics
Databases
Developer Tools
Integration
Internet of Things
Security and Identity
Starter Kits
Web and Mobile
Web and Application

AI

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

FEEDBACK

Code Patterns



Workspace

Collection of artifacts – Intents,
Entities and Dialogs

Build

Deploy

Improve / Metrics

IBM Watson Assistant

The screenshot shows the IBM Watson Assistant interface. On the left is a dark sidebar with four icons: wrenches (Intents), a circular arrow (Entities), a line graph (Dialog), and a grid (Content Catalog). The main area has a header with the title 'Workspaces / SampleWorkspace / Build' and tabs for 'Intents', 'Entities', 'Dialog', and 'Content Catalog'. Below the tabs is a large circular icon containing a network graph. The text 'No intents yet.' is displayed. A descriptive paragraph explains what an intent is: 'An intent is the goal or purpose of the user's input. Adding examples to intents helps your virtual assistant understand different ways in which people would say them.' Below this are three buttons: 'Add intent' (blue), 'Browse content catalog' (grey), and 'Import intents' (grey).

Workspaces / SampleWorkspace / Build

Intents Entities Dialog Content Catalog

No intents yet.

An intent is the goal or purpose of the user's input. Adding examples to intents helps your virtual assistant understand different ways in which people would say them.

Browse available intents to get started using the Content Catalog

Add intent

Browse content catalog

Import intents

Intents

An *intent* is the goal or purpose of the user's input. Adding examples to intents helps your virtual assistant understand different ways in which people would say them.

Provide at least five examples for each intent.

← #turn_on

Intent name
#turn_on

Description
Add a description to this intent

Add user examples
Add user examples to this intent

Add example

User examples (693) ▾

80's music

activate the jams

activate the music

air condition on

Air conditioner on

air on

Air on please.

also turn on the lights

Content Catalog

Intents Entities Dialog Content Catalog

Get started faster by adding existing intents from the content catalog. These intents are trained on common questions that users may ask.

Get started faster by adding existing intents from the content catalog. These intents are trained on common questions that users may ask.

Category	Description	Intents	
Banking	Basic transactions for a banking use case.	13	+ Add to workspace
Bot Control	Functions that allow navigation within a conversation.	9	+ Add to workspace
Customer Care	Understand and assist customers with information about themselves and your business.	18	+ Add to workspace
eCommerce	Payment, billing, and basic management tasks for orders.	14	+ Add to workspace
General	General conversation topics most users ask.	10	+ Add to workspace
Insurance	Issues related to insurance policies and claims.	12	+ Add to workspace
Telco	Questions and issues related to a user's telephony service, device, and plan.	21	+ Add to workspace
Utilities	Help a user with utility emergencies and their utility service.	10	+ Add to workspace

Entities

An *entity* is a portion of the user's input that you can use to provide a different response to a particular intent. Adding values and synonyms to entities helps your virtual assistant learn and understand important details that your users mention.

Entity name
@appliance

Value name
Enter value

Synonyms ▾

Add value

Synonyms

Add synonym... +

	Entity values (7) ▾	Type	
<input type="checkbox"/>	AC	Synonyms	ac, acs, air conditioner, air conditioners, air con
<input type="checkbox"/>	fan	Synonyms	cooler, fans
<input type="checkbox"/>	heater	Synonyms	heat, heating, heat vent, heat vents, hotter
<input type="checkbox"/>	lights	Synonyms	bulb, bulbs, foglight, fog light, foglights, fog lig
<input type="checkbox"/>	music	Synonyms	itune, itunes, music station, music stations, ra
<input type="checkbox"/>	volume	Synonyms	sound, speaker, speakers, vol
<input type="checkbox"/>	wipers	Synonyms	windscreen wiper, windscreen wipers, windsh

System Entities

System entities are common entities created by IBM that could be used across any use case. They are ready to use as soon as you add them.

Intents Entities Dialog Content Catalog

My entities System entities

> **@sys-currency** Extracts currency values from user examples including the amount and the unit. (20 cents) Off

> **@sys-date** Extracts date mentions (Friday) Off

> **@sys-location BETA** The @sys-location system entity extracts place names (country, state/province, city, town, etc.) from the user's input. (Boston) Off

> **@sys-number** Extracts numbers mentioned from user examples as digits or written as numbers. (21) Off

> **@sys-percentage** Extracts amounts from user examples including the number and the % sign. (15%) Off

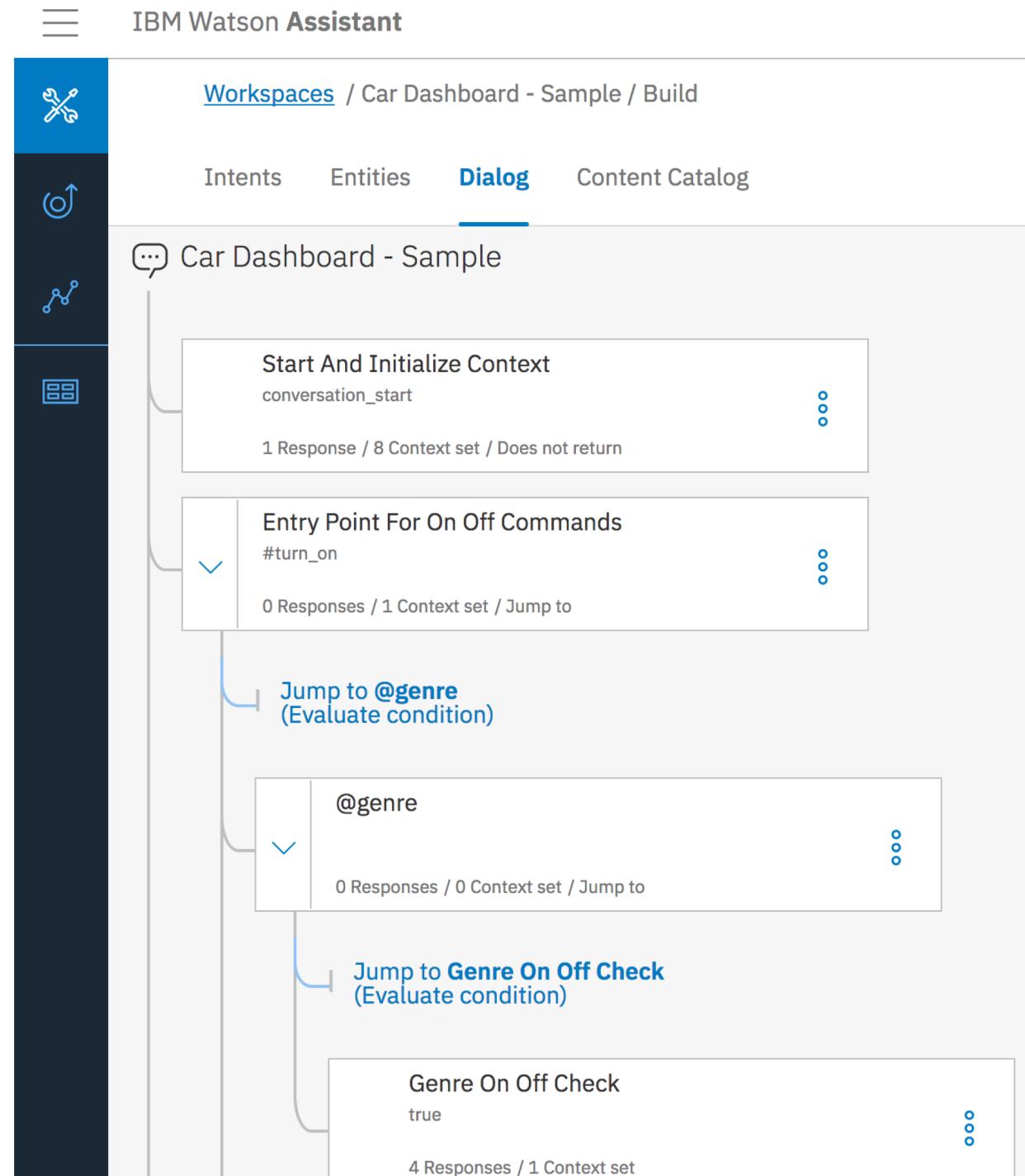
> **@sys-person BETA** The @sys-person system entity extracts names from the user's input. (Anna) Off

> **@sys-time** Extracts time mentions (at 10) Off

Dialog

A dialog uses intents, entities, and context from your application to define a response to each user's input.

Creating a dialog defines how your virtual assistant will respond to what your users are saying.

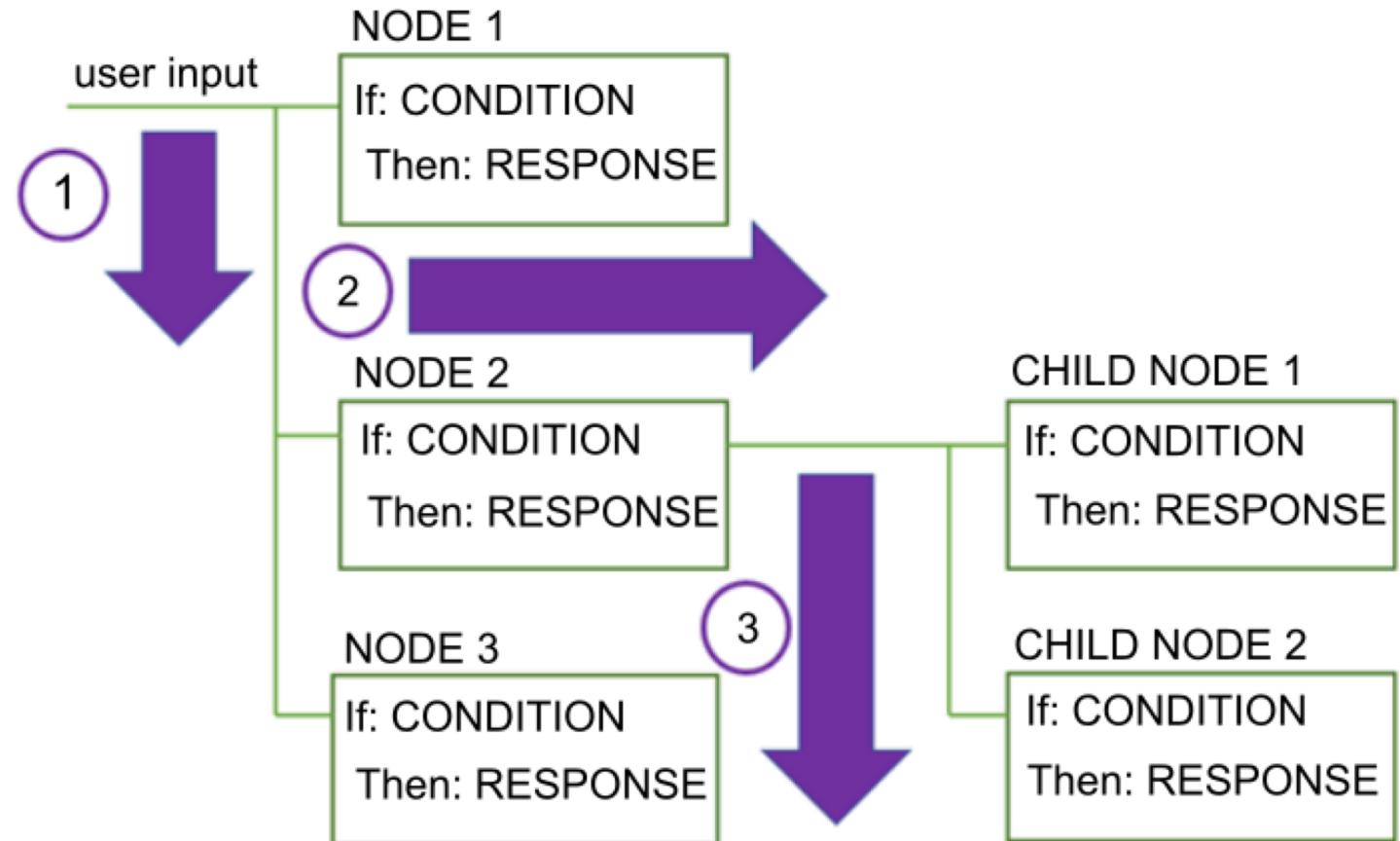


Dialog

Dialog is processed by the service from the first node in the tree to the last.

If the service finds a condition that is met, it triggers that node.

It then moves along the triggered node to check the user input against any child node conditions.



Slots

Add slots to a dialog node to gather multiple pieces of information from a user within that node.

Slots collect information at the users' pace. Details the user provides upfront are saved, and the service asks only for the details they do not.

Book Reservation

Then check for:

Check for	Save it as	If not present, ask
1 @cuisine	\$cuisine	What type of cuisine would you like?
2 @sys-date	\$date	What day would you like to eat?
3 @sys-time	\$time	What time would you like to eat?
4 @sys-number	\$number	How many people will be eating?

 Add slot

Digressions

Use digressions to handle interruptions and off topic short conversations.

Digressions allow the user to change topics or ask for more information and allows them to come back to the original intent.

Example:

Make an appointment.

I need to talk to an agent.

What times are you open?

The screenshot shows the IBM Watson Assistant interface. On the left, the 'Dialog' tab is selected in the workspace navigation bar. Below it, the 'Customer Service - Sample' dialog flow is visible, containing nodes like 'Opening welcome', 'Hours of Operation', 'Directions and location', 'Make an appointment', 'Transfer to agent', and 'Small Talk'. The 'Make an appointment' node is currently selected. A modal dialog titled 'Customize "Make an appointment"' is open over the workspace. This modal has two tabs at the top: 'Customize node' (selected) and 'Digressions' (highlighted with a blue border). The main content area of the modal is titled 'This node has **edited** digressions settings'. It contains two sections: 'Digressions can go away from this node' and 'Digressions can come into this node'. Both sections include descriptive text, icons, and toggle switches. The 'Allow digressions away while slot filling' switch is turned on (blue), and the 'Only digress from slots to nodes that allow returns' checkbox is unchecked. The 'Allow digressions into this node' switch is also turned on (blue), and the 'Return after digression' checkbox is unchecked. At the bottom right of the modal are 'Cancel' and 'Apply' buttons.

Handlers

Use handlers to

- Help the user respond to a slot.
- Configure individual slots.

IBM Watson Assistant

Workspaces / Customer Service - Sample /

Intents Entities Dialog Content

Opening welcome
1 Response / 1 Context set / Does not return

Hours of Operation #Customer_Care_Store_Hours
5 Responses / 0 Context set / Returns

Directions and location #Customer_Care_Store_Location
3 Responses / 0 Context set / Skip user input

Skip user input. The first child node

Provide location true
1 Response / 0 Context set

Make an appointment #Customer_Care_Appointments
3 Responses / 7 Context set / 5 Slots / Does not return

Transfer to agent #General_Connect_to_Agent
1 Response / 0 Context set / Does not return

Manage handlers for "Make an appointment"

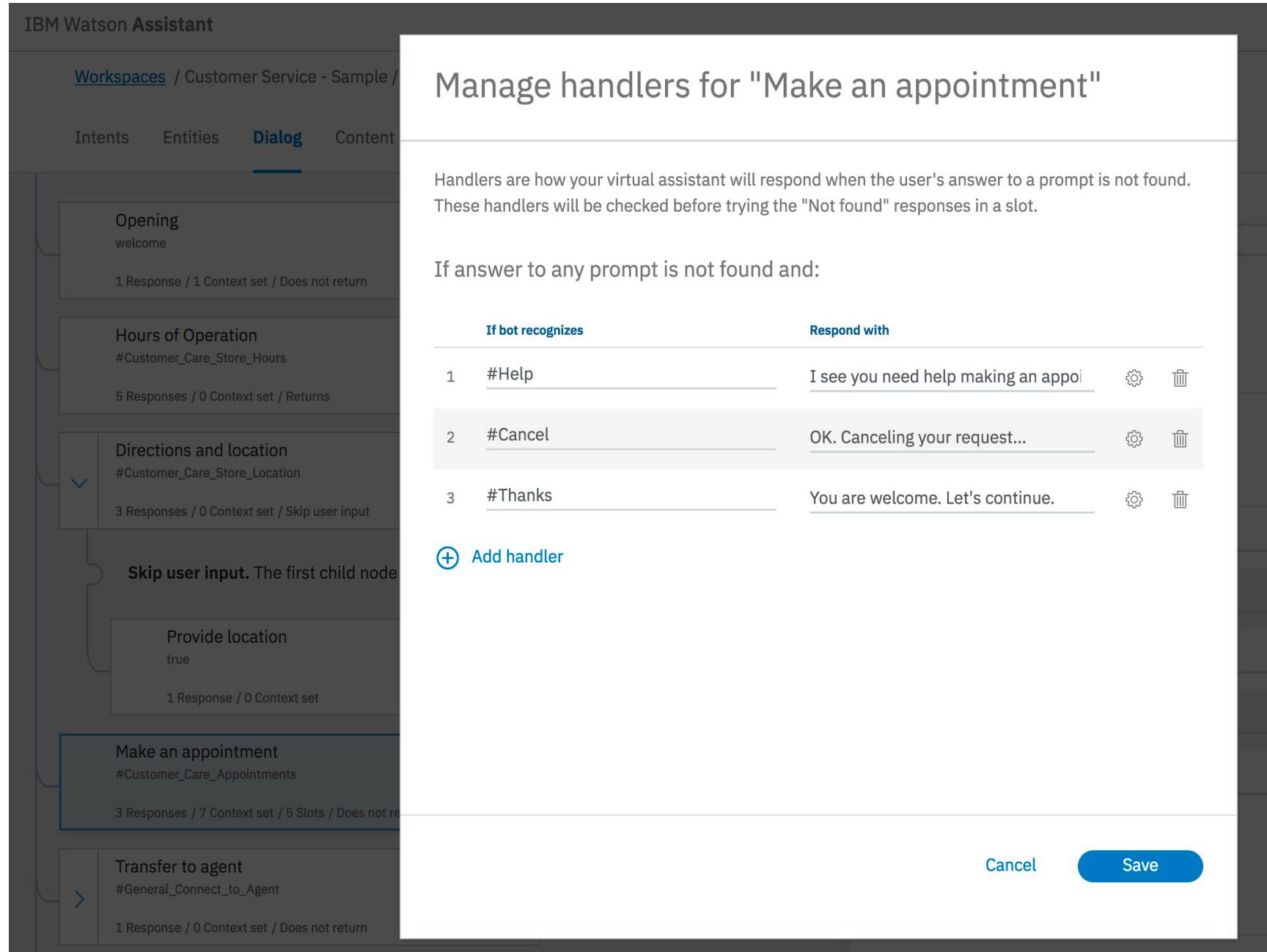
Handlers are how your virtual assistant will respond when the user's answer to a prompt is not found. These handlers will be checked before trying the "Not found" responses in a slot.

If answer to any prompt is not found and:

	If bot recognizes	Respond with	
1	#Help	I see you need help making an appo	
2	#Cancel	OK. Canceling your request...	
3	#Thanks	You are welcome. Let's continue.	

Add handler

Cancel Save



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));
  }
});
```

Some tips before you start

- Start on paper and have a conversation with a friend (***discover intents, entities and create dialog***).
- Don't repeat yourself too many times - unless the information is absolutely necessary to meet the goal or help the end user (***slots***).
- Keep it natural - let the users digress and come back to finish the current conversation (***digressions***).
- Give the users a way out ! (***handlers***)
- Remember details about the users (***context***)
- Forget details when the user starts again (***empty out context***)
- Confirm details in a natural way "I have booked a table for two at 7pm tonight".
- Enable Fuzzy logic – beta feature
- **Enhance user experience with other services via IBM Cloud Functions.**

Next - Watson Assistant deploy to Slack

The screenshot shows the Slack mobile application interface. On the left, the navigation sidebar lists channels (# random, # workshop), direct messages (slackbot, Upkar-IBM (you), Hailey Cho, howarddy, Jason Roche, Toby, Tomomi (Slack)), and apps (Slack Developer Tools, upkarworkshopbot2, WorkshopBot). The main pane displays a conversation between the user and the Watson Assistant bot, "upkarworkshopbot2". The bot has shared two articles:

- iOS: The Best Parts**

This session starts with a review of how to build "Real World" not "Hello World" iOS Apps. We dive into the best architecture, design patterns, libraries, components, tools, tips, tricks and new features from WWDC 2018. After setting the context we start to learn the language using "A Swift (5.0) Tour" Playgrounds.

Followed by "Start Developing iOS Apps (Swift)". "Start Developing iOS Apps (Swift)" is the perfect starting point for learning to create apps that run on iPhone and iPad. View this set of incremental lessons as a guided introduction to building your first app—including the tools, major concepts, and best practices that will ease your path."

We finish the session by examining the s... [Show more](#)

IBM Watson | Nov 29th, 1973
- Anything on Machine Learning ?**

Upkar Liddler

Introduction to Chatbots

Chatbots are the new craze, but it takes a good understanding of dialogs and communication to design and implement a usable chatbot. We will learn the underlying principles of a chatbot in this talk and then build one from scratch.

In this talk, you will learn the anatomy of a good chatbot and how the various pieces fit together. We will look at - Intents: to convey purpose or goal - Entities: make logical decisions based on user input - Dialogs: design a conversation - Slots: collect important information to fulfill an intent - Digressions and Handlers: handle unexpected conversations - Analytics: improve chatbot on an ongoing basis using metrics

Download the speaker slides and material

IBM Watson | Nov 29th, 1973

IBM Code SF – Upcoming Events

24
OCT

Wednesday, October 24, 2018, 6:00 PM

IBM & Slack joint workshop: You deployed a chatbot on Slack --...



Hosted by [Lisa Jung](#)

You deployed a chatbot on Slack--what's next? Join IBM Developer and Slack for a hands-on workshop and learn how to make your bot smarter and more useful with IBM Watson Cognitive Services. First, build a bot from scratch and add the smarts by using Watson Discovery service. The Discover service is able to extract sentiment,...



You + 59 going



Organizer tools ▾



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



3 comments

25
OCT

Thursday, October 25, 2018, 9:30 AM

Online Meetup: Empower your chatbot and add a personality

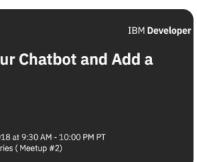


Hosted by [Max Katz](#)

*** Please register at <https://www.crowdcast.io/e/empower-your-chatbot-and> We built a basic chatbot in part I. We continue the journey by adding more digressions and handlers to our bot thereby giving it a personality. Additionally, we will explore the more advanced features in Watson Assistant using the JSON editor. Final...



55 going



Attend

Organizer tools ▾

Needs a location

29
OCT

Monday, October 29, 2018, 9:30 AM

Online Meetup: Introduction to Visual Recognition



Hosted by [Lisa Jung](#)

Register NOW at Crowdcast

<https://www.crowdcast.io/e/introduction-to-visual> Join our live online meetup hosted by IBM Developer SF to learn about visual recognition using IBM Watson. This is a good starting point if you are new to IBM Cloud and Watson Visual Recognition. IBM offers multiple paths int...



You + 48 going



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"...



21 going



Attend

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THANK YOU

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