

Dialogflow 를 활용한 AI 챗봇 만들기



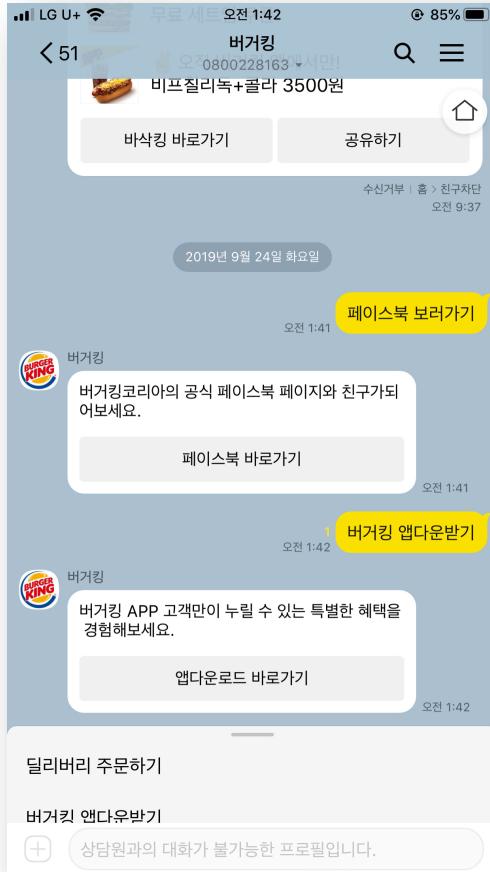
Index

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2. Dialogflow 시작하기
3. Django와 Dialogflow 연결하기
4. Dialogflow로 CRUD 구현하기
5. 봇 테스트하기

챗봇?

메신저에서 일상 언어로 대화할 수 있는 채팅로봇 프로그램

챗봇?



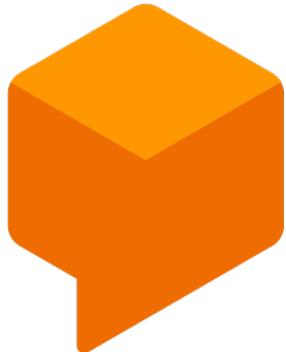
챗봇을 만드려면..?

- 사용자의 말을 인식하기(자연어 처리)
- 입력된 발화의 의도를 파악하기
- 알맞는 처리를 하기
- 처리에 알맞는 응답을 보내주기

언제 다 만들어요?



그러면요?



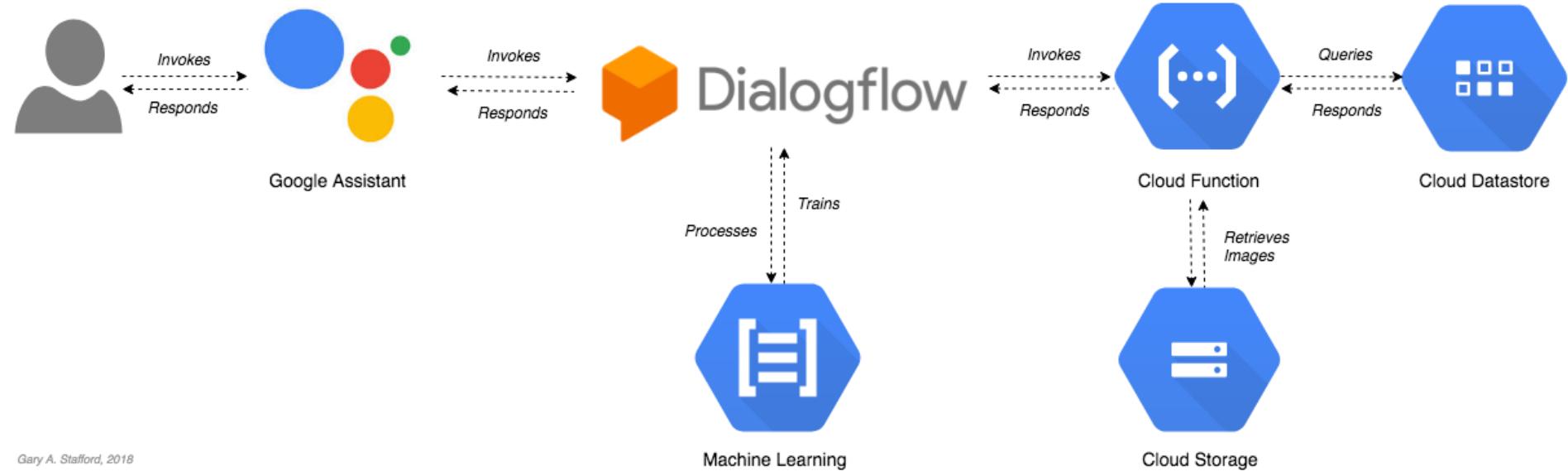
Dialogflow

+



Google Assistant

Dialogflow



Gary A. Stafford, 2018

Dialogflow

Fulfillment
Intent
Action
Parameters
Entity
Context
Event

Dialogflow 시작하기

<https://dialogflow.com>

Dialogflow 시작하기

Dialogflow Overview Case studies Docs Blog Pricing Support

Search Go to console Sign in

Build natural and rich conversational experiences

Give users new ways to interact with your product by building engaging voice and text-based conversational interfaces, such as voice apps and chatbots, powered by AI. Connect with users on your website, mobile app, the Google Assistant, Amazon Alexa, Facebook Messenger, and other popular platforms and devices.

Sign up for free



Intro to Dialogflow

Intro to Dialogflow

Powered by Google's machine learning

Dialogflow incorporates Google's machine learning expertise and products such as Google Cloud Speech-to-Text.

Built on Google infrastructure

Dialogflow is a Google service that runs on Google Cloud Platform, letting you scale to hundreds of millions of users.

Optimized for the Google Assistant

Dialogflow is the most widely used tool to build Actions for more than 400M+ Google Assistant devices.

Dialogflow is user-friendly, intuitive, and just makes sense. Its natural language processing (NLP) is the best we've tried.

Dialogflow 시작하기

The screenshot shows the Dialogflow web interface. On the left, a sidebar menu includes options like 'session_test' (selected), 'secretaryWorm', 'sweeple_delivery_bot', 'Create new agent' (circled in red), 'View all agents', 'Fulfillment', 'Integrations', 'Training', 'Validation [beta]' (checked), 'History', 'Analytics', 'Prebuilt Agents', 'Docs', 'Standard Free', 'Upgrade', and 'Support'. The main area is titled 'Intents' and contains a 'CREATE INTENT' button. A search bar at the top says 'Search intents'. Below it is a list of intents: 'create_order', 'Default Fallback Intent', 'Default Welcome Intent', 'order_delete', 'order_read', and 'order_update'. To the right, there's a 'Try it now' button and a microphone icon, followed by a note: 'Please use test console above to try a sentence.' At the bottom right, there's a link: 'See how it works in Google Assistant.'

Dialogflow 시작하기

The screenshot shows the Dialogflow console interface. On the left is a sidebar with various navigation options: session_test (selected), Intents, Entities, Knowledge [beta], Fulfillment, Integrations, Training, Validation [beta] (checked), History, Analytics, Prebuilt Agents, Docs, and Support.

The main area displays the configuration for the bot 'likelion_session_bot'. At the top, there is a red oval highlighting the bot's name. Below it, under 'DEFAULT LANGUAGE', another red oval highlights 'Korean (South Korea) – ko'. To the right, 'DEFAULT TIME ZONE' is set to '(GMT+9:00) Asia/Tokyo'. A note below states: 'Primary language for your agent. Other languages can be added later.' On the far right, there is a 'Try it now' button and a message: 'Please use test console above to try a sentence.'

At the bottom right of the main area, there is a 'Set-up Google Assistant integration' button.

Dialogflow 시작하기

The screenshot shows the Dialogflow console interface. On the left, a sidebar lists various project components: Intents (selected), Entities, Knowledge [beta], Fulfillment, Integrations, Training, Validation [beta], History, Analytics, Prebuilt Agents, Docs, Standard (Free), Upgrade, and Support. A red oval highlights the 'Intents' tab in the sidebar. The main area is titled 'Intents' and contains a search bar, a list of intents ('Default Fallback Intent', 'Default Welcome Intent'), and a message stating 'No regular intents yet.' with a link to 'Create the first one.' Below this, it explains what intents are and provides a link to 'Read more here.' A note at the bottom left says 'Before you start, check out Prebuilt Agents, a collection of agents developed by the Dialogflow team.' To the right, there's a 'Try it now' button, a microphone icon, a note about using the test console, and a link to see how it works in Google Assistant.

Intents

CREATE INTENT

Try it now

Please use test console above to try a sentence.

See how it works in Google Assistant.

No regular intents yet. [Create the first one.](#)

Intents are mappings between a user's queries and actions fulfilled by your software. [Read more here.](#)

Before you start, check out [Prebuilt Agents](#), a collection of agents developed by the Dialogflow team.

Agent training completed OK

Dialogflow 시작하기

Intents?

1. 의지, 의향(intention); 목적, 계획
2. 의미, 취지

Intent



Intent

인텐트명은 영어

- self_introduce

Contexts

Events

Training phrases

Add user expression

어떻게 가능하니?

자기소개 할 수 있어?

자기소개 해봐

무슨 일이 가능하니?

너는 누구니

Action and parameters

Extract the action and parameters

Parameters are specific values extracted from a user's request when entities are matched. The values captured by parameters can be used in fulfillment, or in building a response. If you mark parameters as

Try it now

Please use test console above to try a sentence.

See how it works in Google Assistant.

Dialogflow

likelion_session_bot

ko

Intents

Entities

Knowledge [beta]

Fulfillment

Integrations

Training

Validation [beta]

History

Analytics

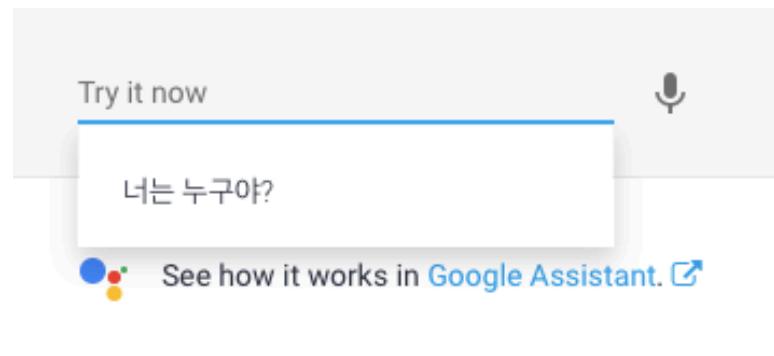
Prebuilt Agents

Docs

Standard Free Upgrade

Support

Intent



Agent

USER SAYS COPY CURL

너는 누구야?

DEFAULT RESPONSE ▾

마라버블티와 흑당떡볶이를 드셔보시겠어요?

INTENT

self_introduce

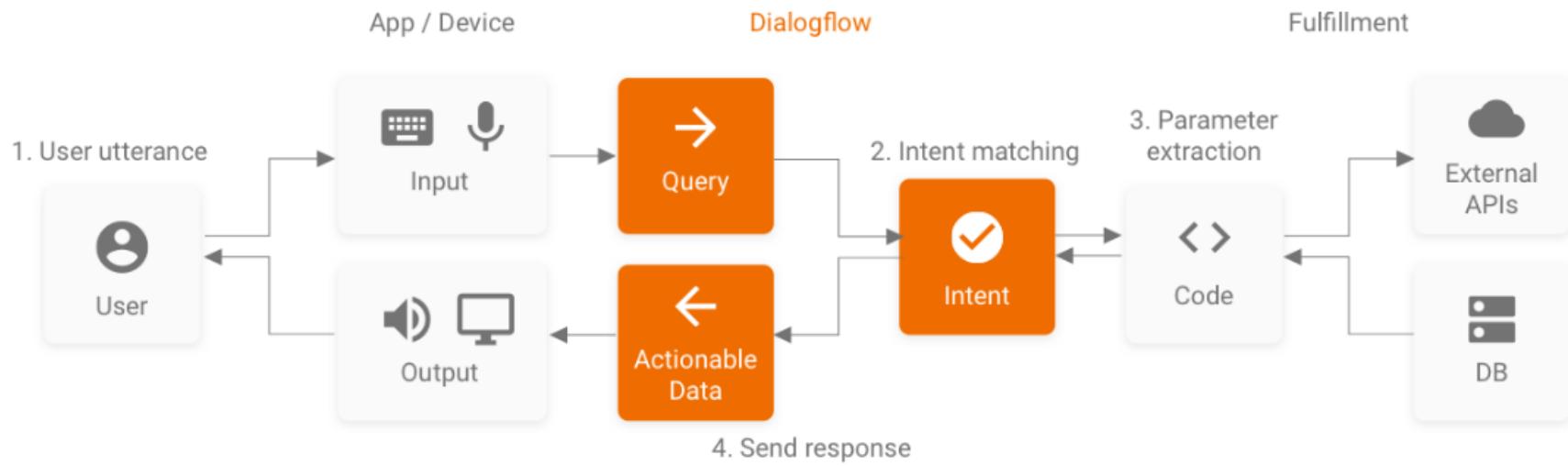
만약...

Dialogflow 를
내 Django 서버에 적용하고 싶어요!

만약...

Fulfillment

Fulfillment



Clone!

https://github.com/YMGYM/django_dialogflow_websever

프로젝트 알아보기

URL

JSON

CSRF

프로젝트 알아보기

/webhook → Action 파악 → return 을
통해 이동

프로젝트 알아보기

JSON

JavaScript Object Notation

프로젝트 알아보기

{

‘key1’: ‘value1’,
‘key2’: ‘value2’,
...

}

프로젝트 알아보기

```
# JSON 타입 반환을 위해 import
from django.http import JsonResponse
import json
```

•••

```
# JSON 형식의 response입니다.
response = {
    'fulfillmentText' : '저는 새로운 트렌드를 선도하는 분식을 판매하는 봇입니다.'
}

return JsonResponse(response, safe=False)
# 주문 정보가 포함된 context를 함께 전송합니다.
# 오류가 나지 않기 위해 'safe=False'가 필요합니다.
```

프로젝트 알아보기

POST request로 보내기 때문에 csrf 오류 발생

프로젝트 알아보기

```
#csrf 예외를 위해 import
from django.views.decorators.csrf import csrf_exempt
```

...

```
@csrf_exempt
```

Fulfillment

The screenshot shows the Dialogflow Fulfillment settings page. A red circle labeled '1' highlights the 'Fulfillment' tab in the sidebar. A red circle labeled '2' highlights the 'ENABLED' toggle switch for the webhook. A red circle labeled '3' highlights the URL input field containing 'http://likelion-session-rxms.run.goorm.io/webhook'. The right side of the screen shows a test console with a 'Try it now' button and a message: 'Please use test console above to try a sentence.'

1

2

3

Try it now

Please use test console above to try a sentence.

See how it works in Google Assistant.

Dialogflow

likelion_session_bot

ko

Intents

Entities

Knowledge [beta]

Fulfillment

URL* http://likelion-session-rxms.run.goorm.io/webhook

BASIC AUTH Enter username Enter password

HEADERS Enter key Enter value

Add header

SMALL TALK Disable webhook for Smalltalk

Inline Editor (Powered by Cloud Functions for Firebase)

Build and manage fulfillment directly in Dialogflow via Cloud Functions for Firebase. [Docs](#)

index.js package.json

1

Standard Free Upgrade

Support

Fulfillment

Fulfillment



Enable webhook call for this intent



Enable webhook call for slot filling

Action

Action = Intent

Intent - 사용자 차원(dialogflow)

Action - webhook 서버 차원

Action

Action and parameters



self_introduce				
REQUIRED <small>?</small>	PARAMETER NAME <small>?</small>	ENTITY <small>?</small>	VALUE	IS LIST <small>?</small>
<input type="checkbox"/>	Enter name	Enter entity	Enter value	<input type="checkbox"/>

[+ New parameter](#)

Action

Diagnostic info

RAW API RESPONSE

FULFILLMENT REQUEST

FULFILLMENT RESPONSE

FULFILLMENT STATUS

```
1 {  
2   "fulfillmentText": "저는 새로운 트렌드를 선도하는 분식을 판매하는 봇입니다."  
3 }
```

Create

Parameters...?

Create

주문자 이름, 주문한 물건 이름

Create

Action and parameters



Enter action name					
REQUIRED <small>?</small>	PARAMETER NAME <small>?</small>	ENTITY <small>?</small>	VALUE	IS LIST <small>?</small>	PROMPTS <small>?</small>
<input checked="" type="checkbox"/>	name	@sys.given-name	\$name	<input type="checkbox"/>	주문자 성함이 어떻게 되나요...

[+ New parameter](#)

Create

Entity...?

Create

The screenshot shows the Dialogflow Entities creation interface. On the left, a sidebar menu is visible with various options: Entities (highlighted with a red circle labeled 1), Intents, Knowledge [beta], Fulfillment, Integrations, Training, Validation [beta], History, Analytics, Prebuilt Agents, Docs, Standard Free, Upgrade, and Support.

The main content area is titled "Entities". It has tabs for "CUSTOM" and "SYSTEM". A large blue button labeled "CREATE ENTITY" is highlighted with a red circle labeled 2. Below it, there is a message: "No entities yet. [Create the first one.](#)". Further down, it says: "Entities are objects your app or device takes action on. [Read more here.](#)" and "We've already created some entities, so you don't have to describe everything from scratch. [Read about system entities here.](#)".

On the right side, there is a "Try it now" button and a microphone icon. A note says: "Please use test console above to try a sentence." Below that, there is a "See how it works in Google Assistant" button with a checkmark.

Create

1

product

SAVE

:

Define synonyms ? Regexp entity ? Allow automated expansion Fuzzy matching ?

마라버블티

종류

흑당떡볶이

마라버블티, 버블티, 마라

유의어

흑당떡볶이, 떡볶이, 흑당

Click here to edit entry

Create

Action and parameters



order_create

REQUIRED <small>?</small>	PARAMETER NAME <small>?</small>	ENTITY <small>?</small>	VALUE	IS LIST <small>?</small>	PROMPTS <small>?</small>
<input checked="" type="checkbox"/>	name	@sys.given-name	\$name	<input type="checkbox"/>	주문자 성함이 어떻게 되나요...
<input checked="" type="checkbox"/>	content	@product	\$product	<input type="checkbox"/>	어떤 것을 주문 하시나요? [...]

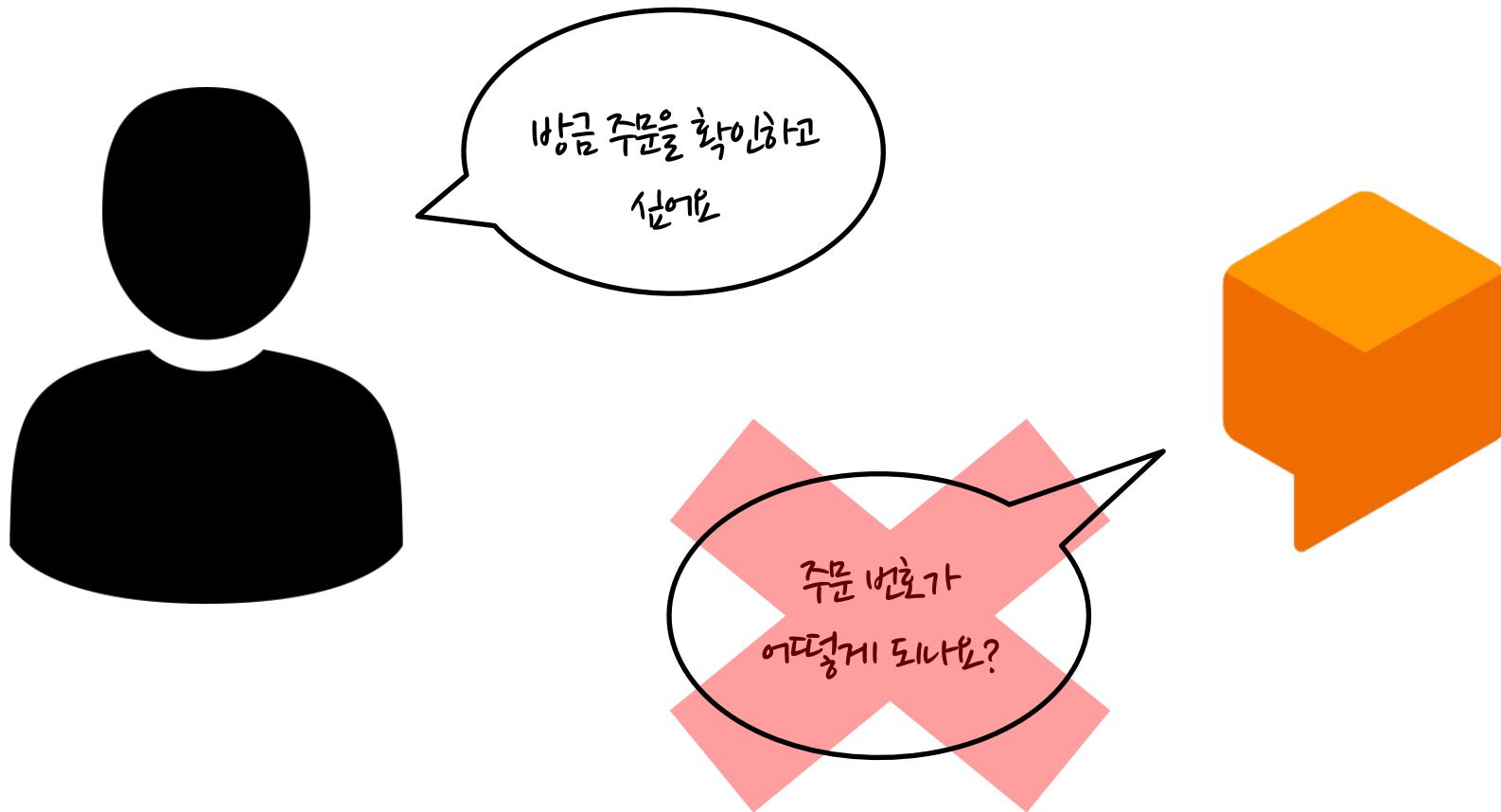
[+ New parameter](#)

Read

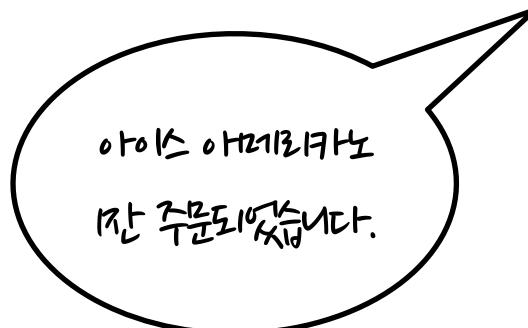
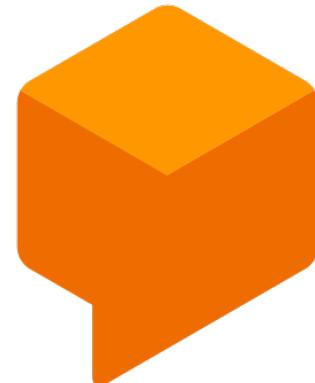
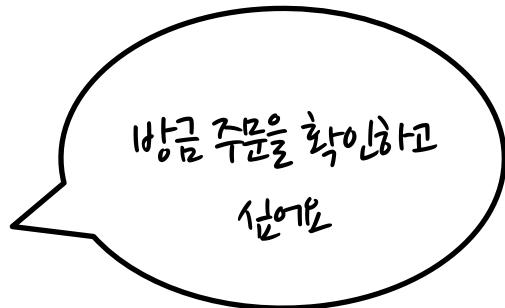
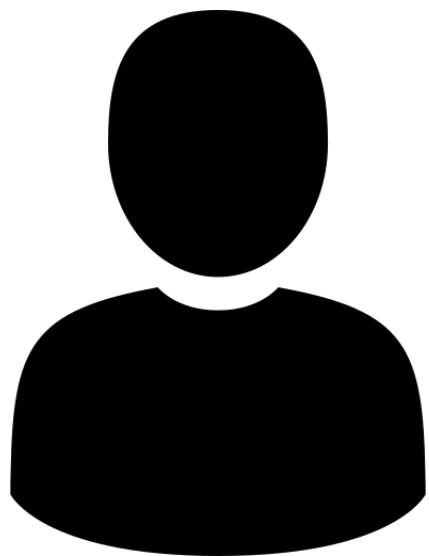
Context...?

1. (어떤 일의) 맥락, 전후사정
2. (글의) 맥락, 문맥

Context



Context



Context

```
60 response = {  
61     'fulfillmentText' : '감사합니다. 주문번호는 {} 입니다.'.format(item.id),  
62     #     "outputContexts": [  
63     #         {  
64     #             "name": order_context,  
65     #             "lifespanCount": 3,  
66     #             "parameters": {  
67     #                 "order_number": item.id  
68     #             }  
69     #         }  
70     #     ]  
71 }  
72  
73 return JsonResponse(response, safe=False)
```

주석 해제

Context

Diagnostic info

RAW API RESPONSE

FULFILLMENT REQUEST

FULFILLMENT RESPONSE

FULFILLMENT STATUS

```
14      "text": [
15        "text": [
16          "감사합니다. 주문번호는 8 입니다."
17        ]
18      }
19    ],
20  ],
21  "outputContexts": [
22    {
23      "name": "projects/likelion-session-bot-nnukr1/agent/sessions/55a21a74-cla2-ac15-
dc49-a528ce36d3fe/contexts/order_context",
24      "lifespanCount": 3,
25      "parameters": {
26        "order_number": 8
27      }
28    }
29  ],
30  "intent": {
31    "name": "Default Welcome Intent"
32  }
33}
```

CLOSE

COPY FULFILLMENT REQUEST AS CURL

COPY RAW RESPONSE

Read

Contexts ?



Add input context

Add output context



Read

Action and parameters



order_read



REQUIRED	PARAMETER NAME	ENTITY	VALUE	IS LIST	PROMPTS
<input checked="" type="checkbox"/>	order_number	@sys.number	#order_content.order_number	<input type="checkbox"/>	주문 번호가 어떻게 되나요?...

Read

Agent

USER SAYS

주문확인할래

COPY CURL

DEFAULT RESPONSE ▾

안민준님이 주문하신 내역은 흑당떡볶이 입니다.

CONTEXTS

RESET CONTEXTS

order_context



Update

Action and parameters



order_update

REQUIRED <small>?</small>	PARAMETER NAME <small>?</small>	ENTITY <small>?</small>	VALUE	IS LIST <small>?</small>	PROMPTS <small>?</small>
<input checked="" type="checkbox"/>	order_number	@sys.number	#order_content.order_number	<input type="checkbox"/>	주문번호가 어떻게 되나요? ...
<input checked="" type="checkbox"/>	content	@product	\$product	<input type="checkbox"/>	어떤 걸로 바꾸실 건가요? ...
<input type="checkbox"/>	Enter name	Enter entity	Enter value	<input type="checkbox"/>	-

[+ New parameter](#)

Delete

정말 이 주문을 취소할 건가요?
(취소 확인)

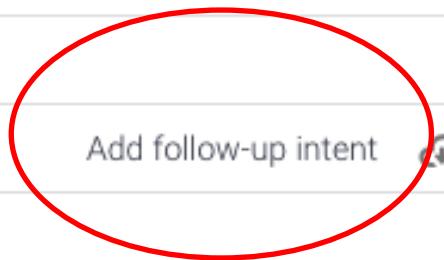
Delete

Search intents

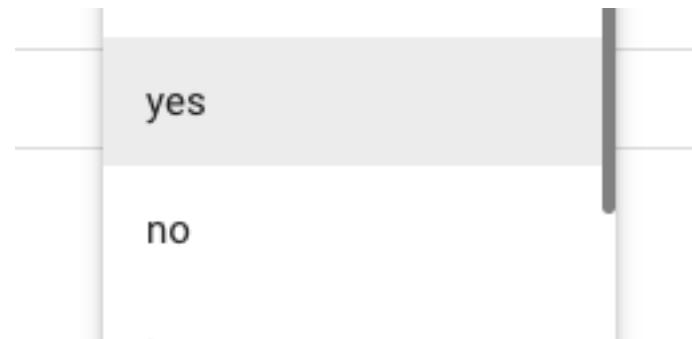


- Default Fallback Intent
- Default Welcome Intent
- order_create
- order_delete
- order_read
- order_update
- self_introduce

Add follow-up intent



Delete



Delete - yes

Action and parameters



order_delete.order_delete-yes

REQUIRED <small>?</small>	PARAMETER NAME <small>?</small>	ENTITY <small>?</small>	VALUE	IS LIST <small>?</small>	PROMPTS <small>?</small>
<input checked="" type="checkbox"/>	order_number	@sys.number	#order_content.order_number	<input type="checkbox"/>	Define prompts...

[+ New parameter](#)

Delete - yes

```
response = {'fulfillmentText': '성공적으로 삭제되었습니다.',  
            "outputContexts": [  
                {  
                    "name": order_context,  
                    "lifespanCount": 0,  
                }  
            ]  
        }
```

Context의 lifespan을 0으로 주면 바로 삭제할 수 있음

Delete - yes

Agent

USER SAYS

용

COPY CURL

DEFAULT RESPONSE

성공적으로 삭제되었습니다.

CONTEXTS

order_delete-followup

RESET CONTEXTS

INTENT

order_delete - yes

Delete - no

삭제하지 않는다면..
주문 확인을 하고 싶다..?

Delete - no

Event...?

Action(intent)을 webhook에서 실행

Delete - no

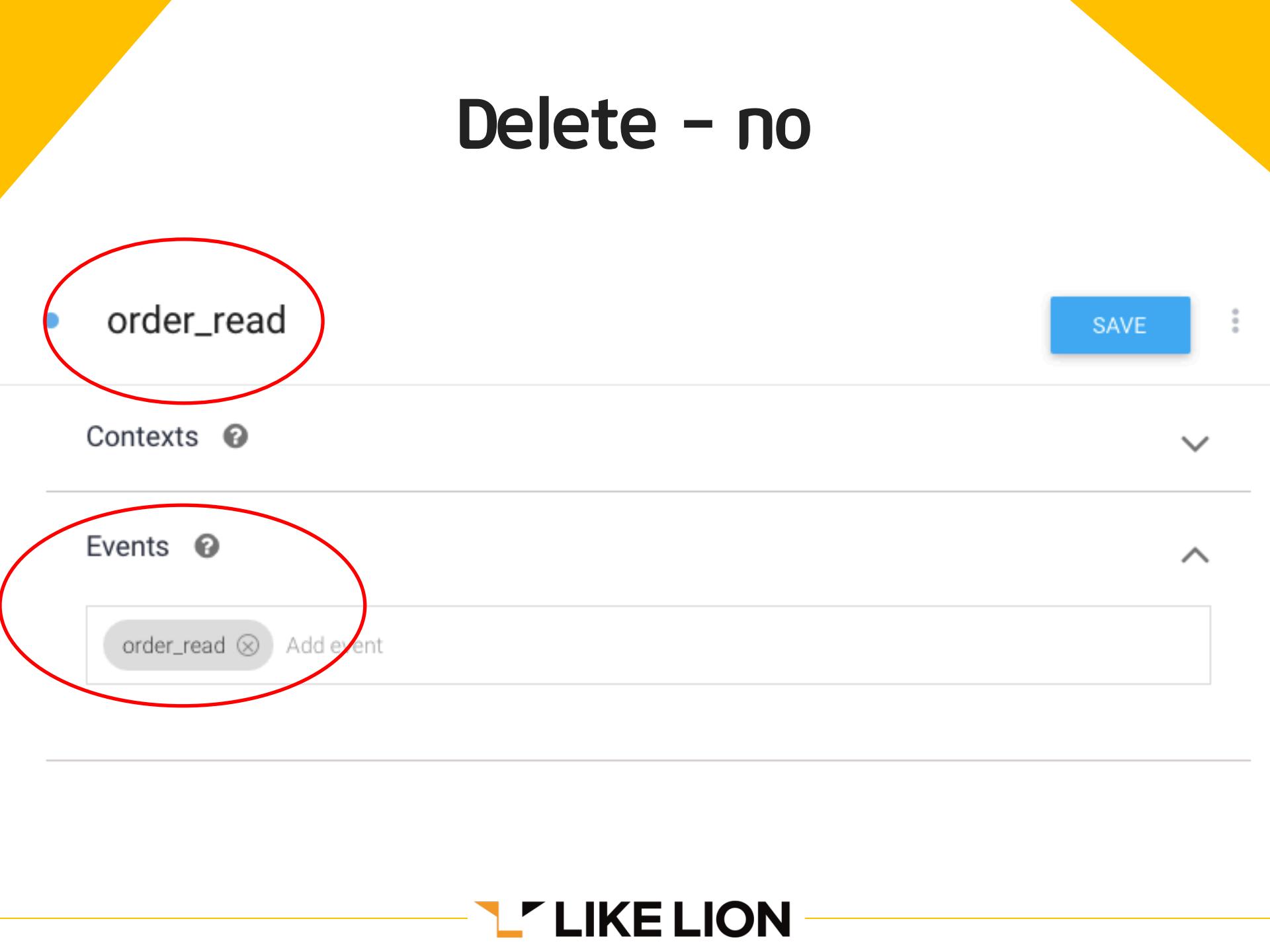
order_read

Contexts [?](#) ▾

Events [?](#) ▲

order_read [×](#) Add event

SAVE [...](#)



Delete - no

```
response = [
    "followupEventInput": {
        "name": "order_read",
        "languageCode": "ko"
    }
]
```

Fulfillment 서버에서 Event를 트리거

봇 테스트

The screenshot shows the Dialogflow interface with the following elements:

- Left Sidebar:** Lists project details (likelion_session_bot), sections like Fulfillment, Integrations (circled with red number 1), Training, Validation [beta], History, Analytics, Prebuilt Agents, Docs, and account info (Standard Free, Upgrade, Support).
- Header:** Displays "Integrations".
- Header Buttons:** "Try it now" and a microphone icon.
- Google Assistant Section:** Features a colorful icon of three circles (blue, red, green, yellow) and the text "Google Assistant". Below it is a description: "Build Actions for the Google Assistant to reach users through Google Home, Android phones, and more devices." A red circle with the number 2 points to the "INTEGRATION SETTINGS" link below this section.
- Integration Grid:** A 4x4 grid of integration icons with toggle switches:
 - Row 1: Web Demo (on), Facebook Messenger (off), Dialogflow Phone Gateway BETA (on), Slack (off)
 - Row 2: Viber (off), Twitter (off), Twilio IP (off), Twilio (Text messaging) (off)
 - Row 3: SNS icon (off), Telegram icon (off), kk icon (off), LINE icon (off)
- Right Panel:** A message area with a note: "Please use test console above to try a sentence." and a link: "See how it works in Google Assistant."

봇 테스트

 Google Assistant

i After the next draft submission, changes made in the Dialogflow will no longer impact existing Action versions right away. Instead, you can continue iterating and improving your Action in draft mode and only make it available to users when you're ready

[LEARN MORE](#)

 **Discovery**

Explicit invocation * Sign in required 

Default Welcome Intent 

Specify the intent that is triggered when users request the app by name (for example "Ok Google, talk to Personal Chef."). [Learn more](#).

Implicit invocation Sign in required 

Add intent

Specify intents that trigger "deep-link" actions in your app, allowing users to invoke specific functionality, such as "OK Google, ask Personal Chef for a hot soup recipe". Providing good action phrases. [Learn more](#).

 **Auto-preview changes** 

Dialogflow will propagate changes to the Actions Console and Assistant Simulator automatically.

[CLOSE](#) [TEST](#) [MANAGE ASSISTANT APP !\[\]\(d2becf5133232528fcc8edbedb7055f3_img.jpg\)](#)

봇 테스트

The screenshot shows the Google Actions Console interface. At the top, there are tabs: Overview, Develop (which is highlighted with a red circle and labeled '1'), Test, Deploy, and Analytics. To the right of the tabs is a dropdown menu for the bot name "likelion-session-bot". Below the tabs, there's a sidebar with links: Invocation (highlighted with a blue background and labeled '2'), Actions, Theme customization, Account linking, and Backend services.

The main content area is titled "Invocation" and has a "Korean" tab selected. It displays the "Display name" section, which contains a text input field with the Korean text "흑당마라봇" (highlighted with a red circle). Below the input field are two buttons: "Click to hear the pronunciation of your name" and "Modify the pronunciation if it doesn't sound right".

On the right side of the "Display name" section is a "Modify languages" button. Below this section is another titled "Google Assistant voice", which allows selecting a voice type ("Female 1" is chosen) and a checkbox for "Match user's language setting".

봇 테스트

■ ■ ■ LG U+ ⌂

오후 3:26

④ ↗ 73% ⌂



안녕하세요, 저는 Google 어시스턴트입니다.

필요한 것을 찾고 작업을 완료하도록 도움을
드릴 수 있습니다. 도움이 필요하면 "무엇을
할 수 있어?"라고 물어보세요.

어떻게 도와드릴까요?

흑당마라봇에게 말하기



■ ■ ■ LG U+ ⌂

오후 3:27

④ ↗ 73% ⌂



흑당마라봇



안녕!

주문하고싶어

주문자 성함이 어떻게 되나요?

안민준

주문하실 메뉴가 무엇인가요?

마라버블티

감사합니다. 주문번호는 14 입니다.



Q & A

수고하셨습니다.