

ChatBot for Tourists in Singapore

Olive FoodBot

User Guide



Team Members

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Contents

Getting Started	1
Quickstart on Slack	1
System Requirements	1
Installation Steps	1
Full installation and deployment	3
System Requirements and Dependencies	3
Pre-requisites	3
Starting Python Flask for Webhooks	3
Importing Chatbot into DialogFlow	3
Deploying as a Slack app	5
Hosting Python Flask on Heroku	7
Test Scenarios	9
Welcome	9
Get Eatery Information	9
Find Popular Restaurants	10
Find Popular Hawker Centres	11
What is XXX	11

Getting Started

You could either use our chatbot that is hosted on Heroku (See **Quickstart on Slack**) or install it to your own local server (See **Full installation and deployment**).

See **Test Scenarios** for sample question and replies.

Quickstart on Slack

System Requirements

For quickstart, as the Python webhook backend for DialogFlow is already hosted on Heroku, the only system requirements are for running Slack¹. See Tables below for minimum requirements.

Table 1. Slack system requirements for desktop apps

Operating System	Requirements
MacOS	<ul style="list-style-type: none"> OS X 10.10 and above
Windows	<ul style="list-style-type: none"> Windows 7 and above
Linux	<ul style="list-style-type: none"> Fedora 28 and above Ubuntu LTS release 16.04 and above Red Hat Enterprise Linux 7.0 and above

Table 2. Slack system requirements for mobile apps

Operating System	Requirements
iOS	<ul style="list-style-type: none"> iOS 11.1 and above
Android	<ul style="list-style-type: none"> Android 4.4 and above
Windows	<ul style="list-style-type: none"> No longer supported for Windows Phone

Table 3. Slack system requirements for web browsers

Operating System	Requirements
Chrome	<ul style="list-style-type: none"> Version 66 and above
Firefox	<ul style="list-style-type: none"> Version 60 and above
Safari	<ul style="list-style-type: none"> Version 10.1 and above
Microsoft Edge	<ul style="list-style-type: none"> Version 41 and above

Installation Steps

1. As the slack app is not publicly distributed at the moment, it can only be used within our own workspace Group3Bot. Join the workspace with this [link](#), and enter and verify your email address.

¹ <https://get.slack.help/hc/en-us/articles/115002037526-Minimum-requirements-for-using-Slack>

Join the Slack
workspace
Group3Bot

What is your email address?

2. Sign in to the workspace **Group3Bot**

Sign in to your workspace

Enter your workspace's Slack URL.


Continue →

Don't know your workspace URL? [Find your workspace](#)

3. In the landing page, click the + button next to Apps, and search for **OliveFoodBot**, and click "View"

Browse Apps View App Directory

In your workspace



OliveFoodBot

Olive, the Food-Bot for Singapore Food

View

4. That's it. You can now begin chatting with OliveFoodBot

- ⚠ Warning: If for some reason, the Foodbot is not working properly (If it keeps giving "I do not understand" answers, it is highly likely that the backend Heroku server is not working for some reason. Please proceed to deploy it with a local server with the full instructions in the next section below.

⚠ Note: As Heroku apps will go to sleep after 30 minutes of inactivity, please expect a longer response when you first start chatting with the FoodBot.

Full installation and deployment

Follow this section only if installing and deploying to your own DialogFlow account and web server.

System Requirements and Dependencies

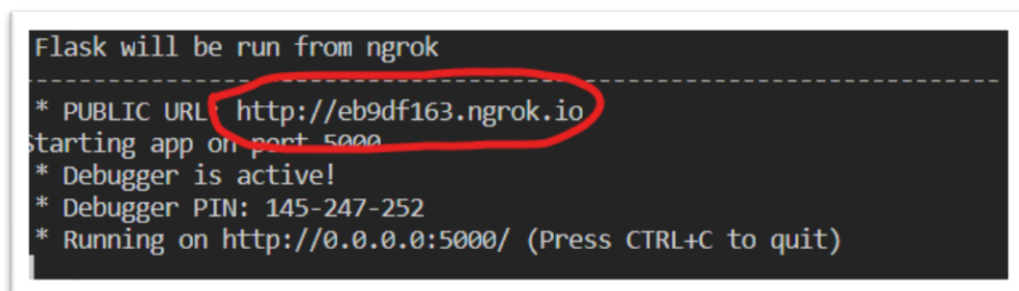
- Python or Anaconda, and Python libraries as specified in requirements.txt
- A modern web browser. Recommended Google Chrome version 76 and above.

Pre-requisites

- Google DialogFlow account. Sign up at <https://console.dialogflow.com/>
- Clone or download project source code from GitHub repository from <https://github.com/eleow/IRS-CS-2019-07-01-IS1FT-GRP-OliveFoodBot>
- Download ngrok.exe or ngrok binary to your machine from <https://ngrok.com/download>

Starting Python Flask for Webhooks

- Navigate to the backend scripts from your local copy of the GitHub repository at \SystemCode\Fulfillment
- Install python project dependencies via the following script in console
`pip install -r requirements.txt`
- Run TouristFood-main.py by the following script in console:
`python TouristFood-main.py`
- You should see the following in the console



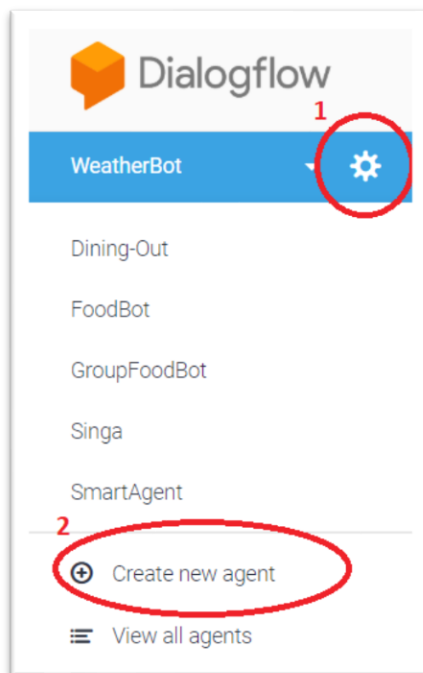
```

Flask will be run from ngrok
-----
* PUBLIC URL http://eb9df163.ngrok.io
starting app on port 5000
* Debugger is active!
* Debugger PIN: 145-247-252
* Running on http://0.0.0.0:5000/ (Press CTRL+C to quit)
  
```

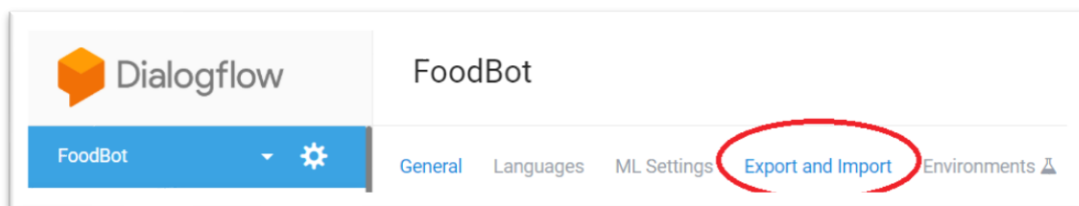
- Backend server is now running, and **ngrok has been automatically started as well.**
- Note down the public url for ngrok (Public url will change everytime you restart the backend)

Importing Chatbot into DialogFlow

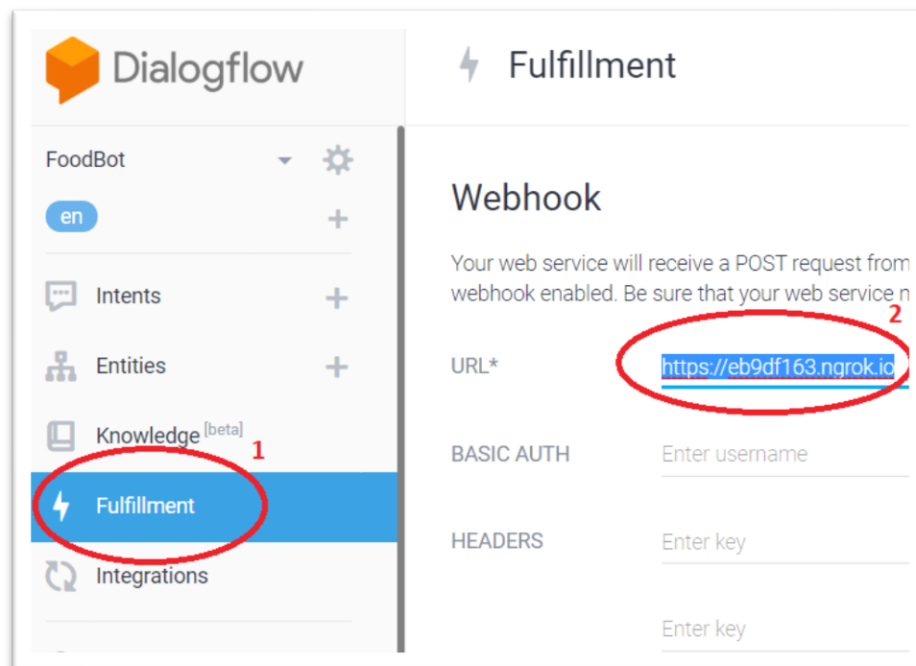
- Login to DialogFlow console at <https://console.dialogflow.com/>
- Create a new agent called “FoodBot” or whatever name you desire by
 1. Clicking the cog button
 2. Clicking the “Create new agent” button



- Import the zip file (TouristForFood.zip) from the local copy of the GitHub repository at \SystemCode\DialogFlow by clicking the “Export and Import” button on DialogFlow



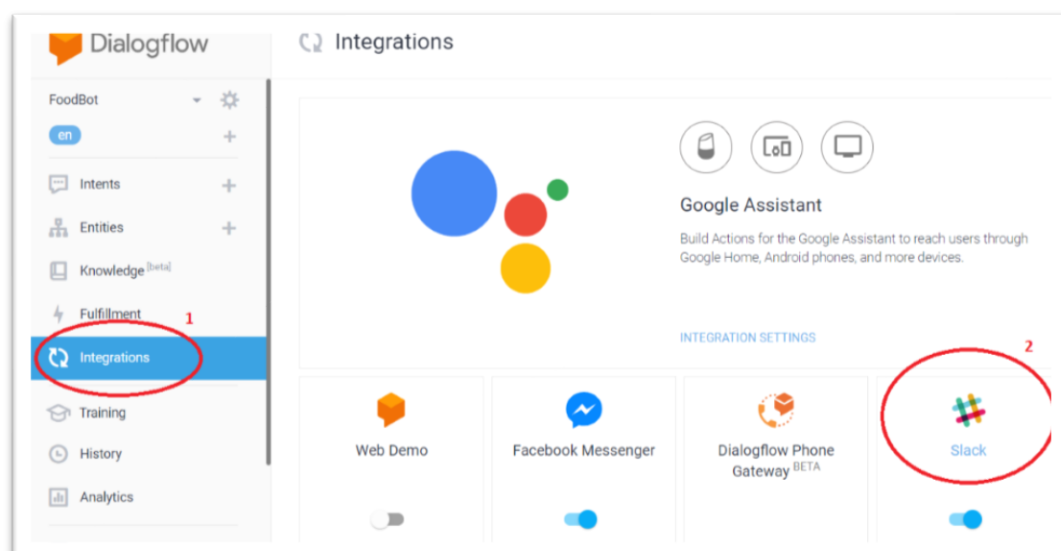
- In DialogFlow, navigate to **Fulfilment** and configure the webhook to point to the URL that was captured earlier, and then **remember to click Save**.



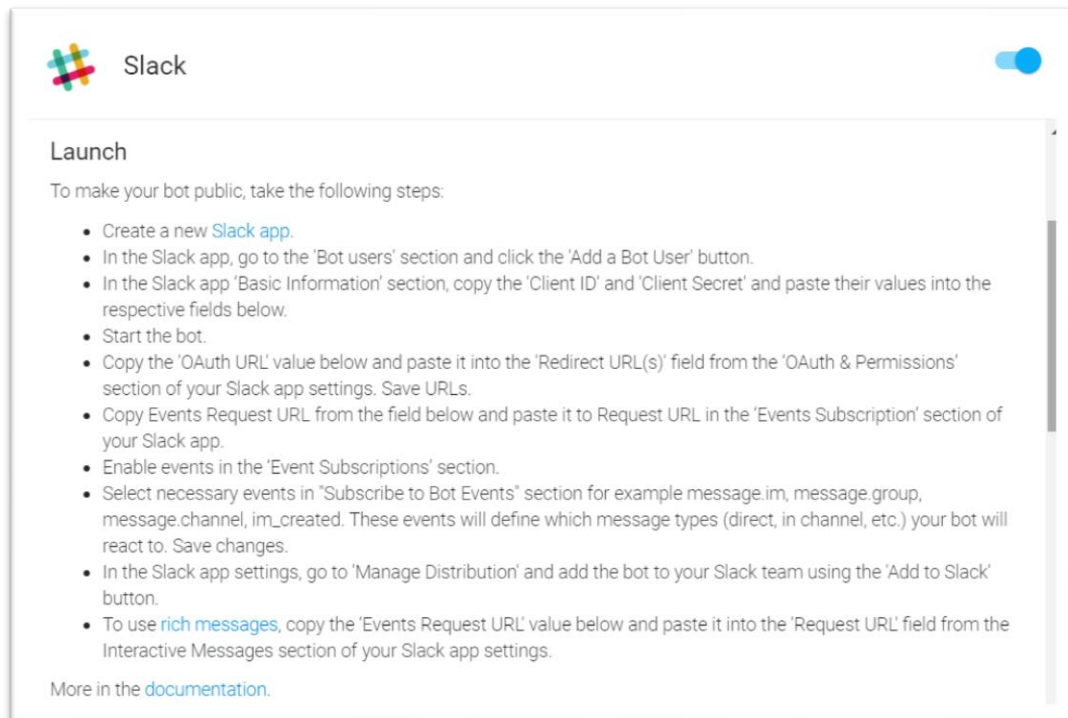
- The FoodBot is now running on DialogFlow and is connected to the local Python Flask web server through ngrok.

Deploying as a Slack app

- As our FoodBot was optimised and tested as a Slack app, the best user experience would be achieved from Slack.
- In DialogFlow, navigate to **Integrations**, ensure that Slack integration is enabled, and click on the Slack icon.



- Follow the instructions provided.



Slack

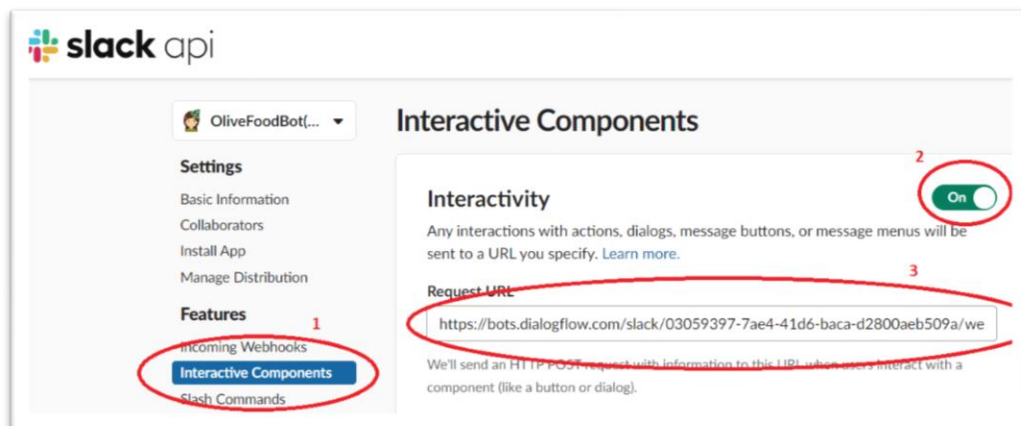
Launch

To make your bot public, take the following steps:

- Create a new [Slack app](#).
- In the Slack app, go to the 'Bot users' section and click the 'Add a Bot User' button.
- In the Slack app 'Basic Information' section, copy the 'Client ID' and 'Client Secret' and paste their values into the respective fields below.
- Start the bot.
- Copy the 'OAuth URL' value below and paste it into the 'Redirect URL(s)' field from the 'OAuth & Permissions' section of your Slack app settings. Save URLs.
- Copy Events Request URL from the field below and paste it to Request URL in the 'Events Subscription' section of your Slack app.
- Enable events in the 'Event Subscriptions' section.
- Select necessary events in "Subscribe to Bot Events" section for example message.im, message.group, message.channel, im_created. These events will define which message types (direct, in channel, etc.) your bot will react to. Save changes.
- In the Slack app settings, go to 'Manage Distribution' and add the bot to your Slack team using the 'Add to Slack' button.
- To use [rich messages](#), copy the 'Events Request URL' value below and paste it into the 'Request URL' field from the Interactive Messages section of your Slack app settings.

More in the [documentation](#).

- After that, follow the additional steps below.
- Using your web browser, goto <https://api.slack.com/apps>, and locate your app
- Go to "Interactive Components", switch it to "On" and enter the request URL. The request URL is given by the "Events Request URL" from DialogFlow



slack api

OliveFoodBot[...]

Settings

- Basic Information
- Collaborators
- Install App
- Manage Distribution

Features

- Incoming Webhooks
- Interactive Components**
- Slash Commands

Interactive Components

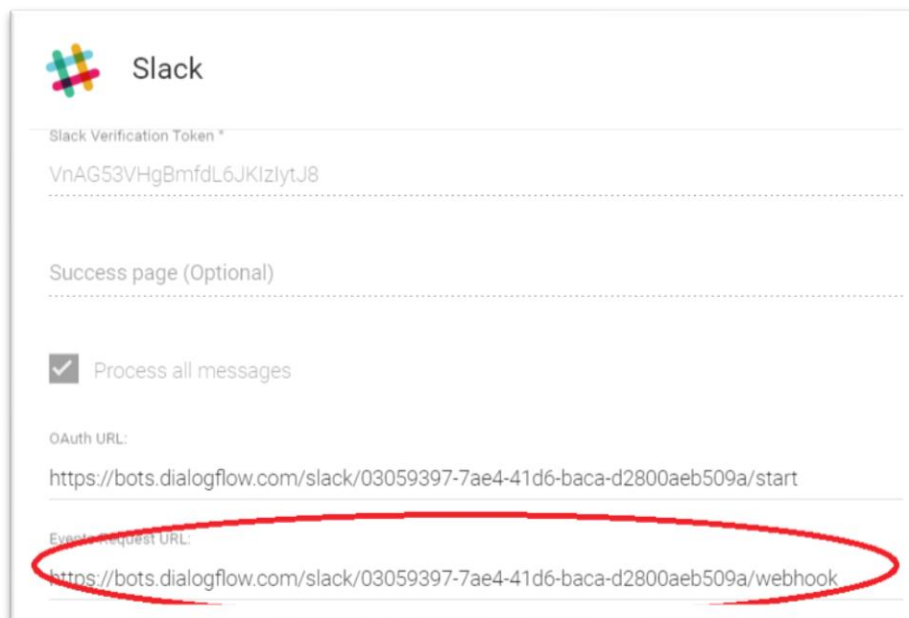
Interactivity

Any interactions with actions, dialogs, message buttons, or message menus will be sent to a URL you specify. [Learn more.](#)

Request URL

<https://bots.dialogflow.com/slack/03059397-7ae4-41d6-baca-d2800aeb509a/we>

We'll send an HTTP POST request with information to this URL when users interact with a component (like a button or dialog).



Slack

Slack Verification Token *

VnAG53VHgBmfdL6JKIzlytJ8

Success page (Optional)

☒ Process all messages

OAuth URL:

<https://bots.dialogflow.com/slack/03059397-7ae4-41d6-baca-d2800aeb509a/start>

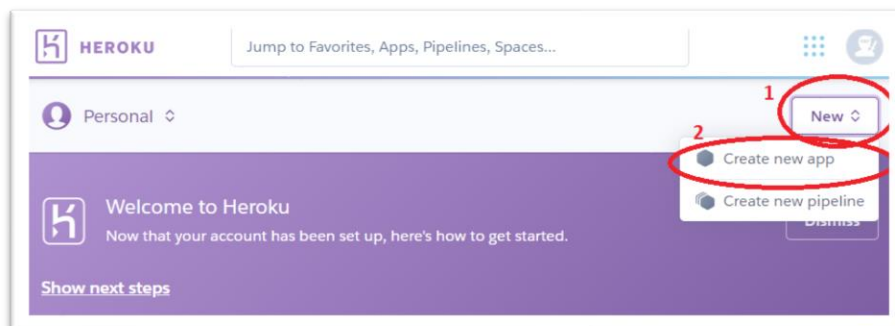
Event Request URL:

<https://bots.dialogflow.com/slack/03059397-7ae4-41d6-baca-d2800aeb509a/webhook>

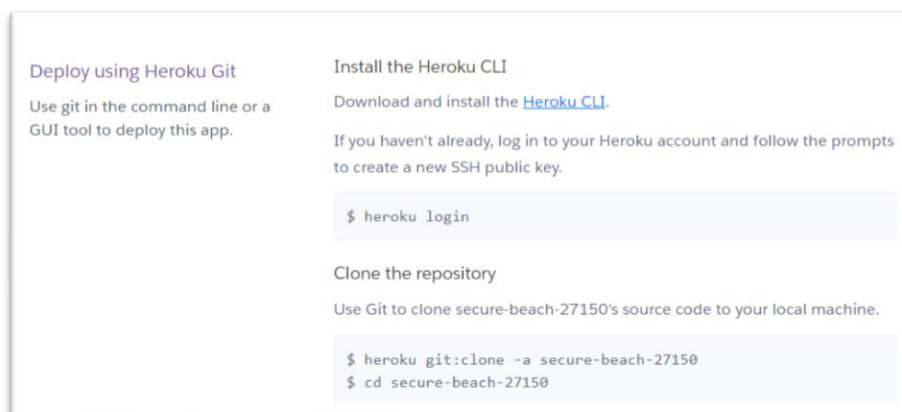
Hosting Python Flask on Heroku

It is also possible to deploy the backend Python webhook to Heroku instead of using ngrok.

- Sign up or log in to <https://www.heroku.com/>
- Create a new app

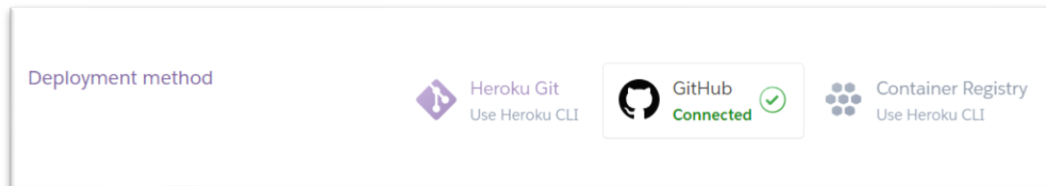


- If using Heroku Git, install the Heroku CLI and then login and follow the steps in the screenshot below

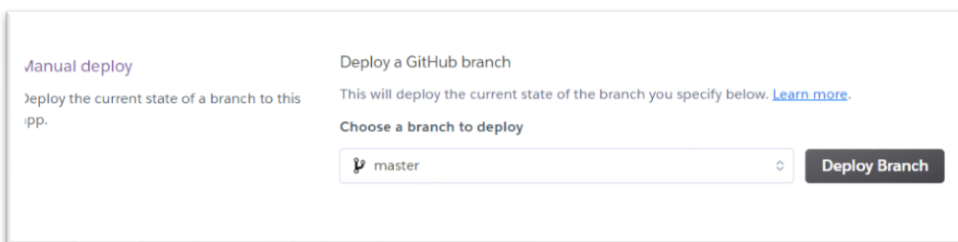


Master of Technology (Intelligent Systems)

- Copy the contents from <https://github.com/eleow/IRS-CS-2019-07-01-IS1FT-GRP-OliveFoodBot> into the new local git repository for your Heroku app.
- Commit and push to Heroku master.
- Alternatively, you could fork the Github repository <https://github.com/eleow/IRS-CS-2019-07-01-IS1FT-GRP-OliveFoodBot> to your own repository and connect Heroku with your Github repository.





- You could optionally enable automatic deployment. Then whenever your Github repository has new commits, Heroku would build and deploy the updated app automatically.
- Otherwise, just use the Manual deploy button




Test Scenarios

Welcome


Edmund 3:54 PM


 Hi



OliveFoodBot APP 3:54 PM

Hi! I am Olive, your personal foodBot for Singapore food! 🤖

Here's a couple of the things I can do:

- Recommend a dining place. (eg *Swensens in Clementi*)
- Get a specific restaurant's details such as its location and rating. (eg *Find popular eateries*)
- Tell you about specific local food in Singapore...

[See more](#)





Get eatery information


Find popular hawker centres

Find popular restaurants


Get Eatery Information



Edmund 3:54 PM



 Get me info on din tai fung


OliveFoodBot APP 3:54 PM

Alright. Let's get details on Din Tai Fung. Any preferred location?


Edmund 3:54 PM


 Orchard


OliveFoodBot APP 3:54 PM

Okay great. I will get the top results for Din Tai Fung in Orchard?

Yes

No

3:54 PM

🌟 Abracadabra! Here are your results for **Din Tai Fung** located in **Orchard** 😊

Click the *restaurant name* to get more info and click on *address* to get directions

Din Tai Fung

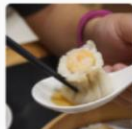
\$\$ • taiwanese, dimsum, dumplings

[435 Orchard Rd, Level 4, Singapore 238877, Singapore](#)

[+6567321383](#)

(3 kB) ▾

★★★★★ yelp



👍

💬

➡

☆

⋮

Find Popular Restaurants

Edmund 10:43 PM

Can you recommend some nice restaurants

OliveFoodBot APP 10:43 PM

What cuisine do you prefer? For example, you can choose Italian, French, Chinese or Indian cuisine.

Edmund 10:43 PM

How about local cuisine

OliveFoodBot APP 10:43 PM

Do you want moderately priced, somewhat expensive or expensive restaurants?

Edmund 10:44 PM

Let's go for something affordable

OliveFoodBot APP 10:44 PM

How many restaurants do you want to find?

Edmund 10:44 PM

5

OliveFoodBot APP 10:44 PM

Sure. Are you searching for 5 moderately priced singaporean restaurants?

10:44 PM Here's a list of popular restaurants in Singapore!

Click the *restaurant name* to get more info and click on *address* to get directions

1. CreatureS
 \$\$ • breakfast_brunch, asianfusion, singaporean
[120 Desker Rd, Singapore 209639, Singapore](#)
 +6562916996
 Open now
 (3 kB)

Find Popular Hawker Centres

Edmund 10:48 PM

I'm looking for hawker centres. Can you help?

OliveFoodBot APP 10:48 PM

How many hawker centres do you want to find?

Edmund 10:48 PM

Just 2

OliveFoodBot APP 10:48 PM

Please confirm that you're searching for 2 hawker centres.

Yes

No

Here are some of the most popular hawker centres in Singapore! 😊

Click the *restaurant name* to get more info and click on *address* to get directions

1. Maxwell Food Centre

\$ • hawkercentre

1 Kadayannallur St, Singapore 069184, Singapore

+6562255632

Open now

(3 kB) ▾

yelp

What is XXX

Edmund 6:18 PM

What is carrot cake

OliveFoodBot APP 6:18 PM

Carrot cake:

Dialect name "chye tow kway" or in Chinese, 菜头粿. Contrary to its name, "carrot cake" contains no carrots and is not a cake in the usual sense of the word. "Carrot cake" in Singapore is usually steamed minced radish mixed with flour. It is normally fried with eggs with served with some li...

[See more](#)

Popular eateries selling carrot cake

Click the *restaurant name* to get more info and click on *address* to get directions

1. Carrot Cake

\$ • streetvendors

20 Kensington Park Road, #01-36 Chomp Chomp Food Centre, Singapore 557269, Singapore

Open now

[See more](#)