

Deployment Instruction

Build Docker images

unzip the **dockers.zip**, get 3 directories: chatbot, dentist, timeslot
cd to 3 directories and build their docker images by:

```
docker build -t service_name .
```

Suggestion: For the convenience (in the coming steps), the “service_name” would be better to be the same as the directory name (chatbot, dentist, timeslot).

For example, in the timeslot directory, the service_name I used is “timeslot”.

```
docker build -t timeslot .
```

Create Docker Network

In practice, the services should be deployed on different servers having different host name for other services to access. But now 3 services are all deployed on one machine, we need to create a docker network for these services to communicate. In the docker network, containers can access others using their container names as host names.

The network can be created by command below, and the network name is up to you.

```
docker network create my_network
```

Suggestion: use the name “my_network”

Run Container

Now we can run 3 services' containers by:

```
docker run --name container_name -p port:port --network network_name -t service_name
```

Note: Each “container_name” must be its image's directory name (chatbot, dentist or timeslot), otherwise the containers are unable to communicate with others!

The port for the services:

chatbot	5000
dentist	4000
timeslot	3000

If you followed the suggestion, the commands should be:

```
docker run --name chatbot -p 5000:5000 --network my_network -t chatbot
docker run --name dentist -p 4000:4000 --network my_network -t dentist
docker run --name timeslot -p 3000:3000 --network my_network -t timeslot
```

Test Endpoint

You can test the endpoint by open the following links in the web browser:

chabot	http://127.0.0.1:5000/static/swagger-ui/index.html
dentist	http://127.0.0.1:4000/static/swagger-ui/index.html
timeslot	http://127.0.0.1:3000/static/swagger-ui/index.html

Use Ngrok

Because we are going to let chatfuel access chatbot service, we need to expose the chatbot service by using ngrok.

cd to the directory “pyfbchatbot-master” and type:

```
./ngrok http 5000
```

The result should be like:

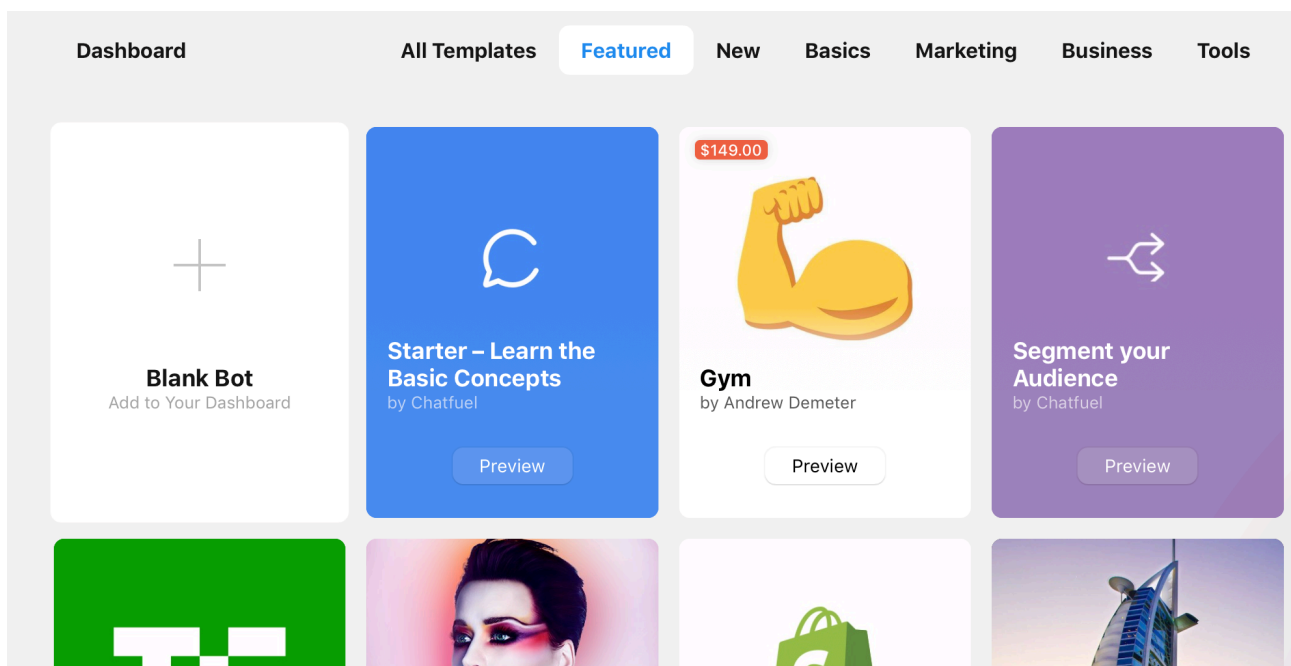
```
Session Status      online
Session Expires     7 hours, 58 minutes
Version             2.3.25
Region              United States (us)
Web Interface        http://127.0.0.1:4040
Forwarding           http://79e6a456.ngrok.io -> http://localhost:5000
Forwarding           https://79e6a456.ngrok.io -> http://localhost:5000

Connections          ttl      opn      rt1      rt5      p50      p90
                    0        0        0.00     0.00     0.00     0.00
```

Keep the window as we are going to use the host name later.

Create a blank bot on Chatfuel

After logging in Chatfuel, create a blank bot by clicking “Blank Bot” under “Featured”.



Now there are only some simple setups to make the Chatfuel work!

Create “Chatbot” Block

Choose the bot that you created, and **add a new block named “Chatbot”**.
Now, add 3 elements to the “Chatbot” Block (**must in the following order!**):

1. Add a “**User Input**” plugin to get user’s input and save the answer to “`{{message}}`”.
2. Add a “**JSON API**” plugin to call the backend chatbot service:
 - The TYPE should be POST
 - The URL is <host name>/v1/ask
 - **Note:** The host name is the “https” address shown in the **ngrok** window
 - Add the `{{message}}` to USER ATTRIBUTES
3. Add a “**Send Block**” to “Chatbot” to make the chatbot work persistently.

The result would be like the picture shown below:

The screenshot displays the Chatbot configuration interface. On the left, the 'BLOCKS OF YOUR BOT' sidebar shows a 'Welcome Message' block and a 'Default Answer' block. Below these, there is a section 'ADD BLOCKS HERE' with a 'Chatbot' button and a '+ ADD SEQUENCE OR GROUP' link. The main area is titled 'Chatbot' and contains three configuration blocks:

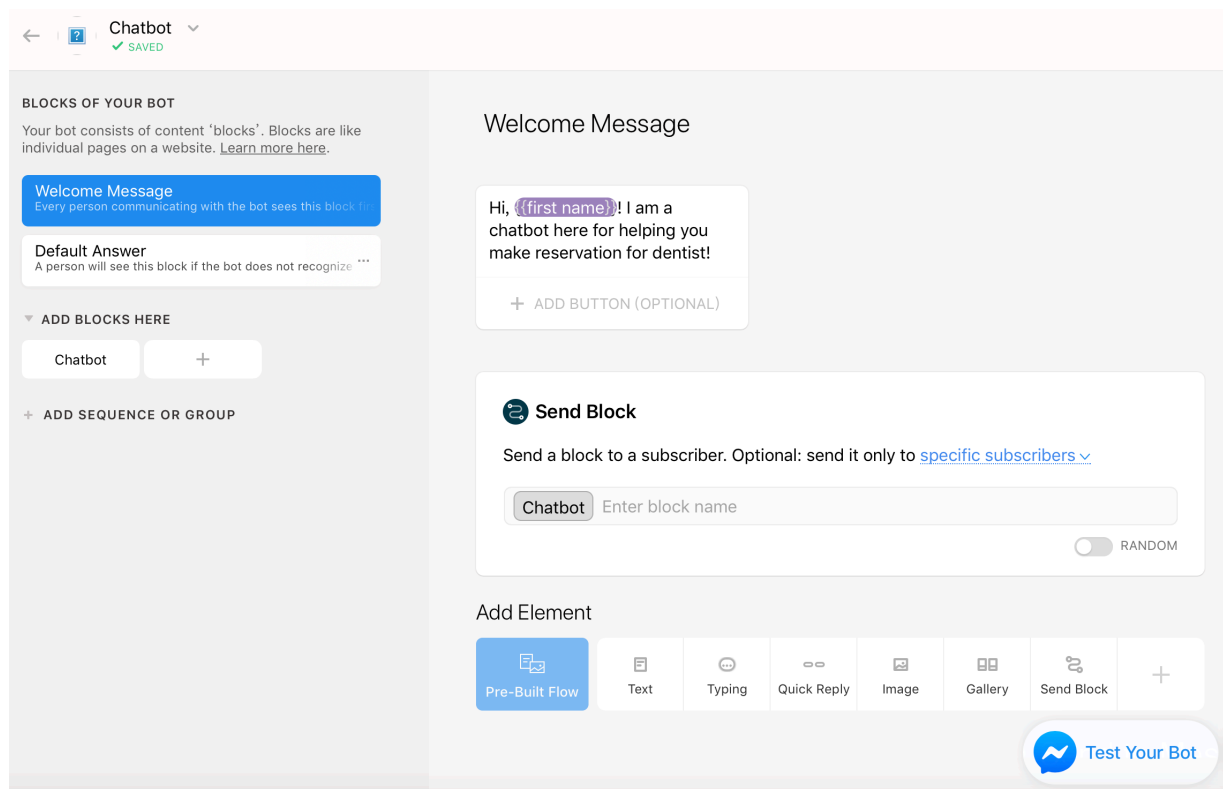
- User Input**: This block is used to get user input and save it to user attributes. It has a 'MESSAGE TO USER' field with the text 'What do you want to ask', a 'VALIDATION' dropdown set to 'None', and a 'SAVE ANSWER TO ATTRIBUTE' field with the value 'message'. There is also an 'ADD FIELDS' button and a link to 'Modify Default Plugin Phrases'.
- JSON API**: This block is used to create various integrations with a server. It has a 'TYPE' dropdown set to 'POST' and a 'URL' field with the value 'https://85c00fc9.ngrok.io/v1/ask'. There is also a 'USER ATTRIBUTES' field with the value 'message' and a checkbox for 'Report plugin errors in the bot'. There is also a link to 'Modify Default Plugin Phrases'.
- Send Block**: This block is used to send a block to a subscriber. It has a 'Send a block to a subscriber. Optional: send it only to specific subscribers' text and a 'Chatbot' button with the text 'Enter block name'. There is also a 'RANDOM' toggle switch.

At the bottom, there is an 'Add Element' section with a 'Pre-Built Flow' button and a row of icons for 'Text', 'Typing', 'Quick Reply', 'Image', 'Gallery', and 'Send Block'.

Modify “Welcome Message” Block

Edit welcome message, and add a “send block” to the “Chatbot” Block.

The result would be like the picture shown below:



Now we are done! Let's start testing the chatbot!

In the default database, we have:

Dentists: jack, janis and wang.

- jack and janis working in Sydney. wang is working in Melbourne.
- They have different specializations (Dentistry, Oral Surgery and Orthodontics)

Dentist Timeslots: 9-17 for the coming 3 days (including the current day)

- the timeslot is in the format: 9-10, 10-11, 12-13, 14-15, etc.
- auto-update the dates if they are past

Appointments: empty by default

Testing Example

Greeting & Basic Conversation



Hi, ! I am a chatbot here for helping you make reservation for dentist!

hi



hello user!

hello



hi user!

hi bot



bonjour!

hi bot



hi, what can I help you?

thanks



no problem

thank you



you are welcome

who are you



I'm a chatbot here to help you make reservation for dentist 😊

my name is iron man



how are you iron man?

Weather Search

what is the weather like in melbourne



the weather in melbourne is scattered clouds, and the temperature is 23 celsius degree.

how is the weather in Sydney



the weather in sydney is clear sky, and the temperature is 25.82 celsius degree.

weather in London



the weather in london is mist, and the temperature is 1.99 celsius degree.

Ask for dentist list

how many dentists are there



Working dentists are jack, wang and janis. Which dentist do you prefer?

show me all the dentists



Working dentists are jack, wang and janis. Which dentist do you prefer?

Ask for dentist's information

tell me more about jack



jack specializes in Dentistry, working in Sydney.

show me the info of wang



wang specializes in Orthodontics, working in Melbourne.

Ask for dentist's available time

tell me janis available time

His/Her available times are:
01/04/2019:
9-10, 10-11, 11-12, 12-13, 13-14,
14-15, 15-16, 16-17
30/03/2019:
9-10, 10-11, 11-12, 12-13, 13-14,
14-15, 15-16, 16-17
31/03/2019:
9-10, 10-11, 11-12, 12-13, 13-14,
14-15, 15-16, 16-17

Now you can book a reservation,
just tell me the dentist and his/her
timeslot 😊



show me jack time

His/Her available times are:
01/04/2019:
9-10, 10-11, 11-12, 12-13, 13-14,
14-15, 15-16, 16-17
30/03/2019:
9-10, 10-11, 11-12, 12-13, 13-14,
14-15, 15-16, 16-17
31/03/2019:
9-10, 10-11, 11-12, 12-13, 13-14,
14-15, 15-16, 16-17

Now you can book a reservation,
just tell me the dentist and his/her
timeslot 😊



Book appointment

can you book jack on 30/03/2019 9-10 for me

Great! I booked an appointment for
you:
Dr. jack on 30/03/2019 from 9 to 10,
your appointment id is 8113.



Recommend time when failed to book appointment

can you book jack on 30/03/2019 9-10 for me

Oops! The timeslot is not available. Would you like to book 31/03/2019 11-12?

book janis 30/03/2000 9-10

Oops! Invalid date. Would you like to book 01/04/2019 15-16?

book janis 01/04/2019 15-16

Great! I booked an appointment for you:
Dr. janis on 01/04/2019 from 15 to 16, your appointment id is 5558.

Cancel appointment

cancel appointment 5558

The appointment is canceled.
Appointment Info: Dr. janis on 01/04/2019 from 15 to 16.

can you cancel jack on 30/03/2019 9-10 for me

The appointment is canceled.
Appointment Info: Dr. jack on 30/03/2019 from 9 to 10.

cancel appointment with id 1234

Oops! Appointment ID does not exist.

Actual Example

hi

hi, need any help?

i want to make a reservation

Sure! Working dentists are jack, wang and janis. Which dentist do you prefer?

show me the info of dentist jack

jack specializes in Dentistry, working in Sydney.

tell me more about wang

wang specializes in Orthodontics, working in Melbourne.

i prefer jack

His/Her available times are:
01/04/2019:
9-10, 10-11, 11-12, 12-13, 13-14, 14-15, 15-16, 16-17
30/03/2019:
9-10, 10-11, 11-12, 12-13, 13-14, 14-15, 15-16, 16-17
31/03/2019:
9-10, 10-11, 11-12, 12-13, 13-14, 14-15, 15-16, 16-17

Now you can book a reservation, just tell me the dentist and his/her timeslot 😊

can you book jack on 31/03/2019 9-10 for me

Great! I booked an appointment for you:
Dr. jack on 31/03/2019 from 9 to 10, your appointment id is 7273.

can you cancel appointment with id 7273 for me



The appointment is canceled.
Appointment Info: Dr. jack on
31/03/2019 from 9 to 10.

thank you



you are welcome