

## Deployment Instructions

**Note:** Please do run **Dentist service** and **timeslots service** in the respective docker container because paths have been set up.

### *Dialogflow service:*

Go to dialogflow folder:

Type the following command in the terminal:

```
pip install -r requirements.txt
python dialogflow.py
```

### *Dentist service:*

In the dentist folder, go to app folder, there is a Dockerfile.

Type the following commands in the terminal:

```
docker build -t dentist .
docker run -p 8000:8000 -it dentist
```

### *Timeslots service:*

In the timeslot folder, go to app folder, there is a Dockerfile.

Type the following commands in the terminal:

```
docker build -t timeslot .
docker run -p 4000:4000 -it timeslot
```

### *Frontend service:*

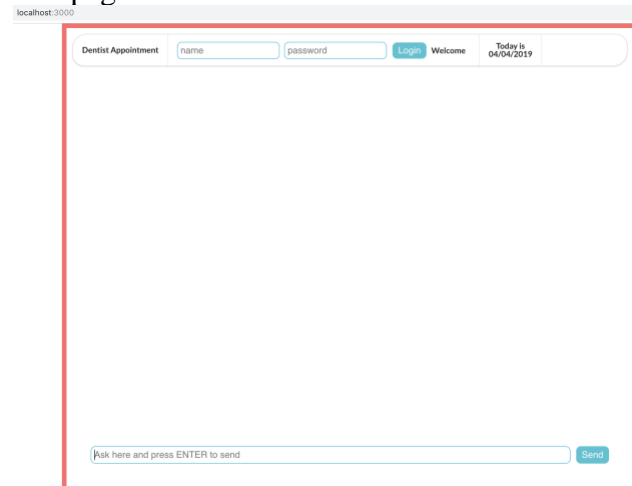
Go to frontend folder:

Type the following commands in the terminal:

```
npm install
npm start
```

Then go to <http://localhost:3000/>. The username is **1234**. The password is **admin**.

The page looks like this:



The screenshot shows a web browser window with the address bar displaying 'localhost:3000'. The page has a light gray header with the text 'Dentist Appointment' on the left. To its right are two input fields labeled 'name' and 'password', followed by a blue 'Login' button and the text 'Welcome'. Further right, it says 'Today is 04/04/2019'. The main body of the page is a large white rectangle with a thin red border. At the bottom of this rectangle is a text input field with the placeholder text 'Ask here and press ENTER to send' and a blue 'Send' button.

## Endpoints and sample inputs and outputs

**Note:** Because I have added authentication service, when all the services are turned on, and it will not be allowed to get the data using URL only or inputting values in the Swagger document without login in the frontend page. I got the following screenshots of each example before adding authentication.

Please do use frontend page for testing.

Swagger for dentist: <http://localhost:8000/static/swagger-ui/index.html>

Swagger for timeslot: <http://localhost:4000/static/swagger-ui/index.html>

### 1: Get all available dentists

#### Appointments

The screenshot shows the Swagger UI for the endpoint `GET /dentists`. The description is "Gets the available dentists". There are no parameters. An "Execute" button is present. The response section shows a curl command, the request URL `http://localhost:8000/v1/dentists`, and a server response with status code 200 and body `"The available dentists: Mike, Jim, Tracey, Oliver, Jack, Harry, Oscar, James, William, Joe"`.

Responses	
<b>Curl</b>	
<pre>curl -X GET "http://localhost:8000/v1/dentists" -H "accept: application/xml"</pre>	
<b>Request URL</b>	
<pre>http://localhost:8000/v1/dentists</pre>	
<b>Server response</b>	
Code	Details
200	<b>Response body</b> <pre>"The available dentists: Mike, Jim, Tracey, Oliver, Jack, Harry, Oscar, James, William, Joe"</pre>

## 2: Get dentist information

### Input

GET	/dentist/info/{did}	Gets the dentist's info
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Parameters

Name	Description
<b>did</b> * required string (path)	Enter your dentist. <input type="text" value="Mike"/>

Execute

### Output

Responses

Curl

```
curl -X GET "http://localhost:8000/v1/dentist/info/Mike" -H "accept: application/xml"
```

Request URL

```
http://localhost:8000/v1/dentist/info/Mike
```

Server response

Code	Details
200	<p>Response body</p> <pre>"Mike is located at Chatswood specializing in Paediatric Dentistry"</pre>

### 3: Get available timeslot for each dentist

#### Input

GET

/dentist/timeslots/{did} Gets the available timeslot of each dentist

Parameters

Name	Description
<div><div>did * required</div><div>string</div><div>(path)</div></div>	<div>Enter your dentist.</div> <div>Joe</div>

#### Output

Curl

curl -X GET "http://localhost:4000/v1/dentist/timeslots/Joe" -H "accept: application/xml"

Request URL

http://localhost:4000/v1/dentist/timeslots/Joe

Server response

Code	Details
200	<div><div>Response body</div><div>"A list of available timeslot of Joe: Mon 9-10am, Mon 10-11am, Mon 11-12pm, Mon 12-13pm, Mon 13-14pm, Mon 14-15pm, Mon 15-16pm, Mon 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Wed 9-10am, Wed 10-11am, Wed 11-12pm, Wed 12-13pm, Wed 13-14pm, Wed 14-15pm, Wed 15-16pm, Wed 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Fri 9-10am, Fri 10-11am, Fri 11-12pm, Fri 12-13pm, Fri 13-14pm, Fri 14-15pm, Fri 15-16pm, Fri 16-17pm, Sat 9-10am, Sat 10-11am, Sat 11-12pm, Sat 12-13pm, Sat 13-14pm, Sat 14-15pm, Sat 15-16pm, Sat 16-17pm, Sun 9-10am, Sun 10-11am, Sun 11-12pm, Sun 12-13pm, Sun 13-14pm, Sun 14-15pm, Sun 15-16pm, Sun 16-17pm"</div></div>

## 4: Reserve timeslot

### Input

GET	/dentist/{did}/timeslot/{tid}/reserve	Books an appointment of a dentist
Parameters		
Name		Description
<b>did</b> * required		Enter your dentist.
string (path)		<input type="text" value="Tracey"/>
<b>tid</b> * required		Enter your timeslot.
string (path)		<input type="text" value="Mon 9-10am"/>

### Output

Curl

```
curl -X GET "http://localhost:4000/v1/dentist/Tracey/timeslot/Mon%209-10am/reserve" -H "accept: application/json"
```

Request URL

```
http://localhost:4000/v1/dentist/Tracey/timeslot/Mon%209-10am/reserve
```

Server response

Code	Details
200	<div>Response body</div> <div>"You have successfully booked Mon 9-10am with Tracey"</div>

## 5: Cancel appointment

### Input

PUT

/dentist/{did}/timeslot/{tid}/cancel

Cancel an timeslot

Parameters

Name	Description
<div><div>did * required</div><div>string</div><div>(path)</div></div>	<div>Enter your dentist.</div> <div>Tracey</div>
<div><div>tid * required</div><div>string</div><div>(path)</div></div>	<div>Enter your timeslot.</div> <div>Mon 9-10am</div>

Execute

### Output

Curl

```
curl -X PUT "http://localhost:4000/v1/dentist/Tracey/timeslot/Mon%209-10am/cancel" -H "accept: application/json"
```

Request URL

```
http://localhost:4000/v1/dentist/Tracey/timeslot/Mon%209-10am/cancel
```

Server response

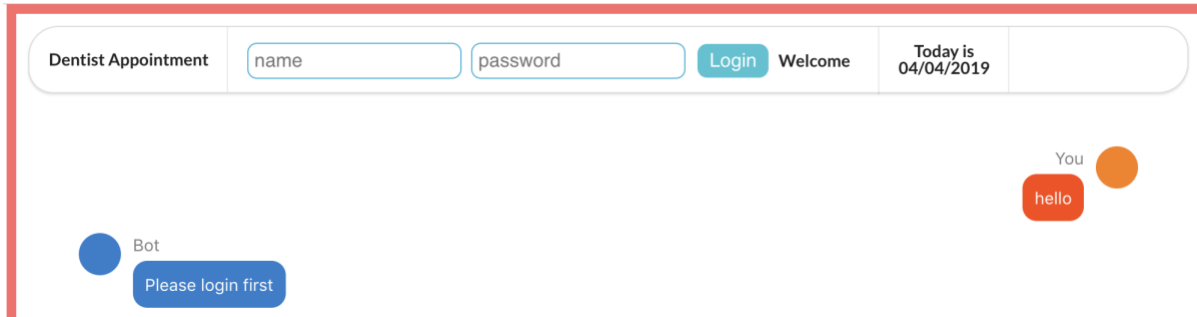
Code	Details
200	<div>Response body</div> <div>"You have successfully canceled Mon 9-10am with Tracey"</div>

## How to use the bot

**Note:** I specifically set the token which will be valid in 30 minutes once login to the system. After 30 minutes, user needs to login again.

When you are in the frontend page, please do login firstly before doing any further action.

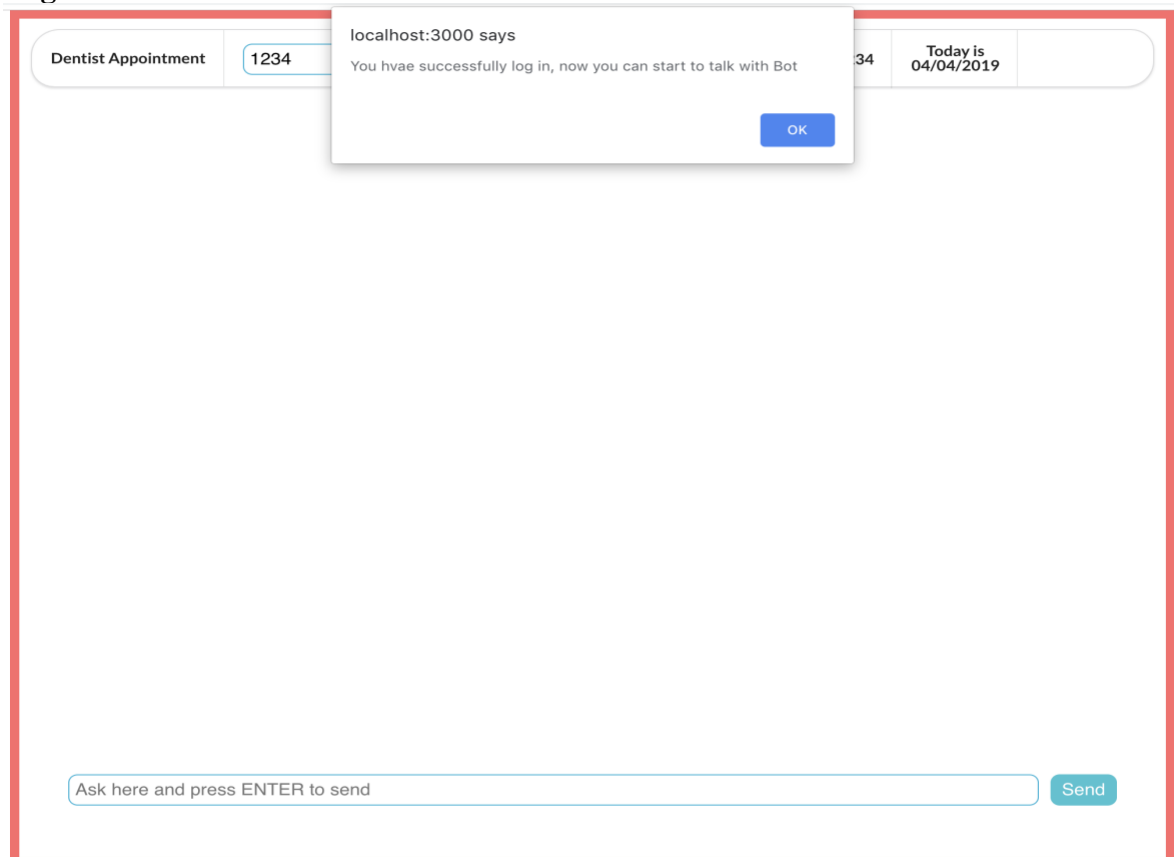
Otherwise:



The screenshot shows a web interface for a 'Dentist Appointment' system. At the top, there is a header bar with a 'name' input field, a 'password' input field, a 'Login' button, and a 'Welcome' label. To the right of the header, it says 'Today is 04/04/2019'. In the main chat area, a blue bubble from the 'Bot' says 'Please login first'. On the right side, a red bubble from 'You' says 'hello'.

The user name is **1234**. The password is **admin**.

**Login**



This screenshot shows the same login page as before, but with the 'name' field containing '1234'. A modal dialog box is displayed in the center, titled 'localhost:3000 says', with the message 'You hvae successfully log in, now you can start to talk with Bot' and an 'OK' button. The header bar now shows '34' next to the 'Login' button. At the bottom of the chat area, there is a text input field with the placeholder 'Ask here and press ENTER to send' and a 'Send' button.

After login successfully, you can ask anything related about dentists and the timeslots.

### Greeting and details about a dentist

Dentist Appointment

1234

.....

Login

Welcome 1234

Today is  
04/04/2019

You

hello

Bot

Hi there, welcome! You can check all dentists and ask timeslot for dentists as well as check the information about the dentist.

You

can i get the all dentist

Bot

The available dentists: Mike, Jim, Tracey, Oliver, Jack, Harry, Oscar, James, William, Joe

You

can i know sth about mike

Bot

Mike is located at Chatswood specializing in Paediatric Dentistry

Ask here and press ENTER to send

Send

### Asking time for specific dentist

You

time for jim

Bot

A list of available timeslot of Jim: Mon 9-10am, Mon 10-11am, Mon 11-12pm, Mon 12-13pm, Mon 13-14pm, Mon 14-15pm, Mon 15-16pm, Mon 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Wed 9-10am, Wed 10-11am, Wed 11-12pm, Wed 12-13pm, Wed 13-14pm, Wed 14-15pm, Wed 15-16pm, Wed 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Fri 9-10am, Fri 10-11am, Fri 11-12pm, Fri 12-13pm, Fri 13-14pm, Fri 14-15pm, Fri 15-16pm, Fri 16-17pm, Sat 9-10am, Sat 10-11am, Sat 11-12pm, Sat 12-13pm, Sat 13-14pm, Sat 14-15pm, Sat 15-16pm, Sat 16-17pm, Sun 9-10am, Sun 10-11am, Sun 11-12pm, Sun 12-13pm, Sun 13-14pm, Sun 14-15pm, Sun 15-16pm, Sun 16-17pm

Ask here and press ENTER to send

Send



## Asking how to book or cancel

The screenshot shows a chat interface with a red border. On the right side, there are four orange speech bubbles from 'You' with the following text: 'how can i book a timeslot', 'how to book', 'how can i cancel', and 'how to cancel'. On the left side, there are four blue speech bubbles from 'Bot' with the following text: 'type "time# dentist's name"', 'type "time# dentist's name"', 'type "time~ dentist's name"', and 'type "time~ dentist's name"'. At the bottom, there is a text input field with the placeholder 'Ask here and press ENTER to send' and a 'Send' button.

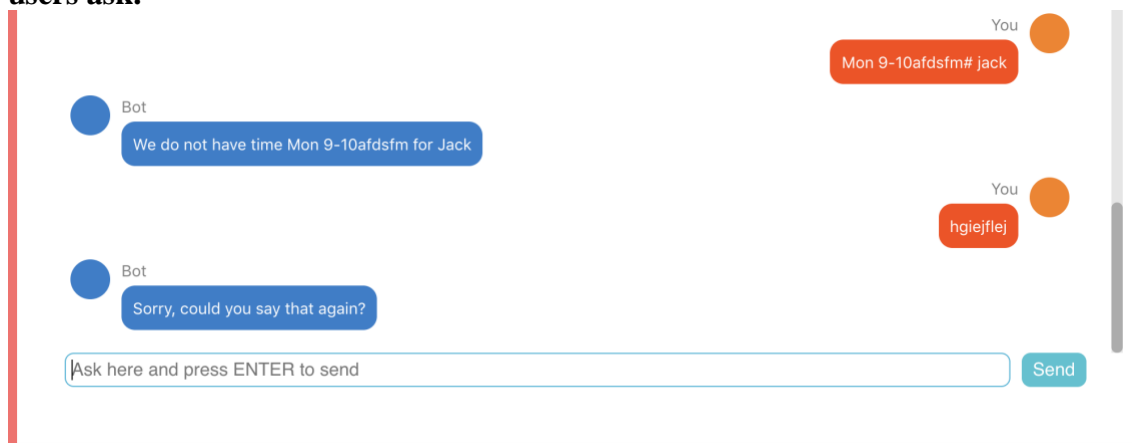
## Booking and cancelling

User needs to confirm to cancel the time. If user clicks “Cancel”, it will not cancel the time. If user clicks “OK”, it will successfully cancel the time.

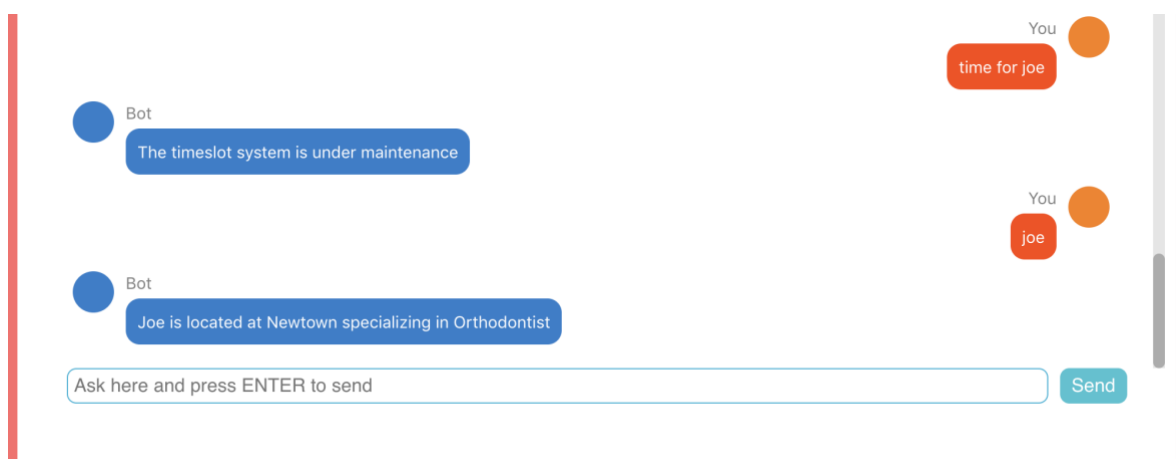
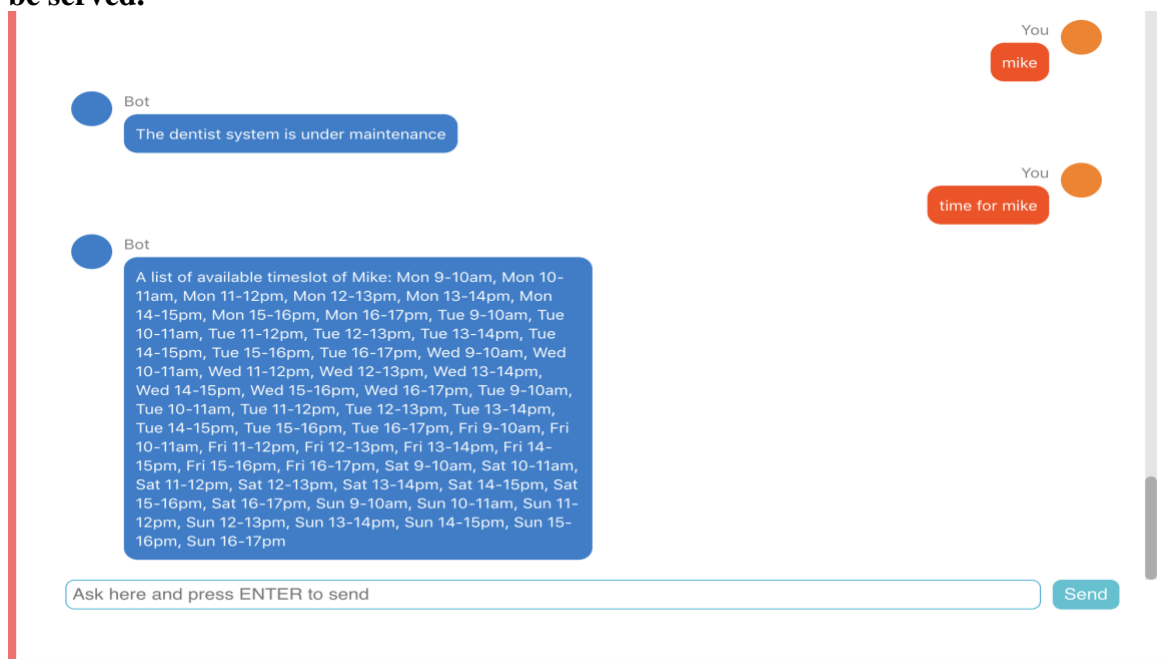
The screenshot shows a chat interface with a red border. At the top left, there is a 'Dentist Appointment' field with the value '1234'. To its right, there is a status bar that says 'localhost:3000 says' and 'Are you sure to cancel Mon 9-10am ?'. Below this, there is a blue speech bubble from 'Bot' with the text 'about the dentist.' and a 'Cancel' button. In the center, there is a large blue speech bubble from 'Bot' containing a list of available timeslots for Jim: 'A list of available timeslot of Jim: Mon 9-10am, Mon 10-11am, Mon 11-12pm, Mon 12-13pm, Mon 13-14pm, Mon 14-15pm, Mon 15-16pm, Mon 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Wed 9-10am, Wed 10-11am, Wed 11-12pm, Wed 12-13pm, Wed 13-14pm, Wed 14-15pm, Wed 15-16pm, Wed 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Fri 9-10am, Fri 10-11am, Fri 11-12pm, Fri 12-13pm, Fri 13-14pm, Fri 14-15pm, Fri 15-16pm, Fri 16-17pm, Sat 9-10am, Sat 10-11am, Sat 11-12pm, Sat 12-13pm, Sat 13-14pm, Sat 14-15pm, Sat 15-16pm, Sat 16-17pm, Sun 9-10am, Sun 10-11am, Sun 11-12pm, Sun 12-13pm, Sun 13-14pm, Sun 14-15pm, Sun 15-16pm, Sun 16-17pm'. On the right side, there are two orange speech bubbles from 'You' with the following text: 'time for jim' and 'Mon 9-10am# tracey'. At the bottom, there is a text input field with the value 'Mon 9-10am# tracey' and a 'Send' button. A modal dialog box is open in the center, asking 'Are you sure to cancel Mon 9-10am ?' with 'Cancel' and 'OK' buttons.



**The bot also gives some reasonable replies for users if the bot does not understand what users ask.**



**Because the systems are microservices, which means one of the services (dentist or timeslot) does not run, it will not affect the whole website and the working system is still be served.**



## Database

Dentist and timeslot have their own data.json file in the respective service.

There are 10 dentists: Mike, Jim, Tracey, Oliver, Jack, Harry, Oscar, James, William and Joe.

Dentist has two attributes: location and specialization.

Each dentist has its own time table and it is the same.

For example:

Mon 9-10am, Mon 10-11am, Mon 11-12pm, Mon 12-13pm, Mon 13-14pm, Mon 14-15pm, Mon 15-16pm, Mon 16-17pm, Tue 9-10am, Tue 10-11am, Tue 11-12pm, Tue 12-13pm, Tue 13-14pm, Tue 14-15pm, Tue 15-16pm, Tue 16-17pm, Wed 9-10am, Wed 10-11am, Wed 11-12pm, Wed 12-13pm, Wed 13-14pm, Wed 14-15pm, Wed 15-16pm, Wed 16-17pm, Thu 9-10am, Thu 10-11am, Thu 11-12pm, Thu 12-13pm, Thu 13-14pm, Thu 14-15pm, Thu 15-16pm, Thu 16-17pm, Fri 9-10am, Fri 10-11am, Fri 11-12pm, Fri 12-13pm, Fri 13-14pm, Fri 14-15pm, Fri 15-16pm, Fri 16-17pm, Sat 9-10am, Sat 10-11am, Sat 11-12pm, Sat 12-13pm, Sat 13-14pm, Sat 14-15pm, Sat 15-16pm, Sat 16-17pm, Sun 9-10am, Sun 10-11am, Sun 11-12pm, Sun 12-13pm, Sun 13-14pm, Sun 14-15pm, Sun 15-16pm, Sun 16-17pm