# Taxi Booking System

API Interface Specification

Created by: Tan Si Ling

Latest as of 28th December 2017

# Table of Contents

## Introduction

This document provides a list of APIs available for Taxi Booking System. These APIs are called using HTTP POST method. “Book a Taxi” API requires authorization with a testing id and secret provided in the request. Request and responses for these APIs are in JSON format.

## API Services

The table below shows the API endpoints available for this Taxi Booking System.

| S/No | Name of API Services | Description | HTTP Method | URL (Endpoint of API) |
|---|---|---|---|---|
| 1 | Book a Taxi | 1. Picks a nearest available car to passenger’s location.<br><br>2. Returns total time for car to bring passenger to their destination. | POST | http://TaxiCustomerA:CustA123 @localhost:5000/api/book |
| 2 | Increment Time Stamp | Increments the system time stamp by 1 time unit. | POST | http://localhost:5000/api/tick |
| 3 | Reset Taxi System | Reset all cars data back to initial state regardless of cars that are currently booked. | POST | http://localhost:5000/api/reset |

## Request Parameters | Book a Taxi

| Parameter | Type | Description |
|---|---|---|
| **source** | **object** | |
| x | integer | Passenger’s initial position x1 coordinate |
| y | integer | Passenger’s initial position y1 coordinate |
| **destination** | **object** | |
| x | integer | Passenger’s destination position x2 coordinate |
| y | integer | Passenger’s destination position y2 coordinate |

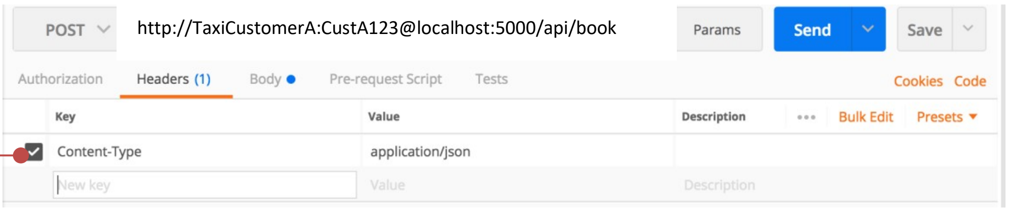
## Response Parameters | Book a Taxi

HTTP Status Code: 200 indicates that the HTTP call succeeded.
HTTP Status Code: 4XX/5XX indicates that the HTTP call failed.

| Parameter | Type | Description |
|---|---|---|
| car_id | integer | Car ID that would fetch passenger to destination. |
| total_time | integer | Total time taken for the car to reach passenger and pick the passenger up from source to destination. |

## Sample API Request and Response | Book a Taxi

Add in the content-type in the header.

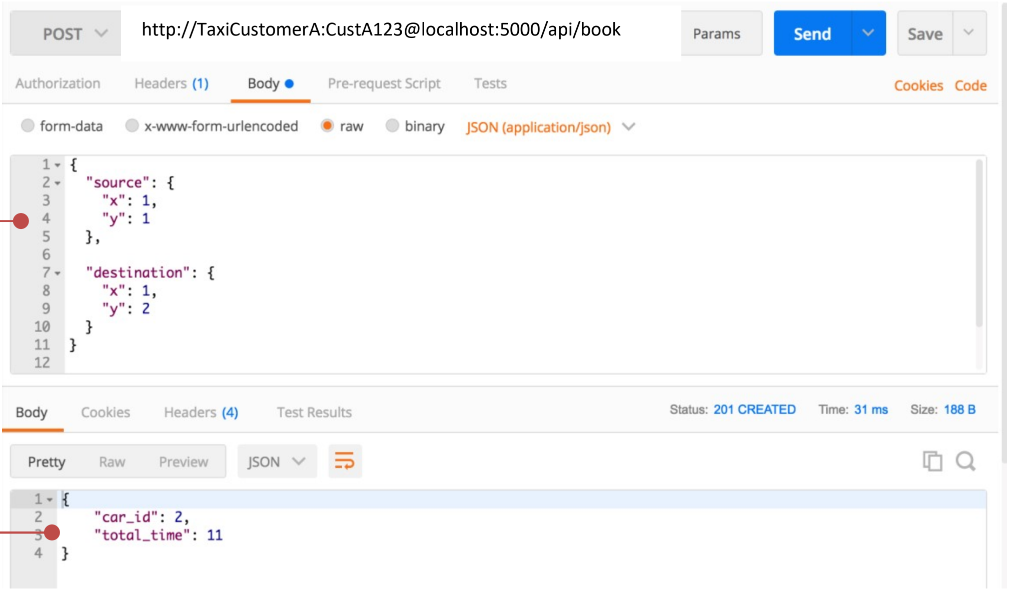


POST http://TaxiCustomerA:CustA123@localhost:5000/api/book

| Key | Value | Description |
|---|---|---|
| ✓ Content-Type | application/json | |
| New key | Value | Description |

Sample body request

Sample body response



POST http://TaxiCustomerA:CustA123@localhost:5000/api/book

Body: raw, JSON (application/json)

```
{
  "source": {
    "x": 1,
    "y": 1
  },

  "destination": {
    "x": 1,
    "y": 2
  }
}
```

Status: 201 CREATED Time: 31 ms Size: 188 B

```
{
    "car_id": 2,
    "total_time": 11
}
```

## Testing | Running Program Locally

This section provides detailed instructions on how to run the API locally.

**Pre-requisities**

1. Download Postman (https://www.getpostman.com/postman)

2. Unzip the source code (TaxiServiceApi.zip) and place it into your local path directory.

3. Install Python (my version 2.7.5)

4. Install virtualenv (https://pypi.python.org/pypi/virtualenv)

```
$ cd TaxiServiceApi

$ virtualenv flask

$ pip install flask
```

**Run the Program**

1. Navigate into your TaxiServiceApi folder and run app.py.

```
$ python app.py

 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

2. Launch your postman and type `http://TaxiCustomerA:CustA123@localhost:5000/api/book` to fire a request.

**Note:** For authorization of “Book a Taxi” API, please use the following credentials.

**Client ID:** TaxiCustomerA
**Client Secret:** CustA123