Interface Detailed Design Specification

Weather-api

MULESOFT API

Version:	1.0
Date:	21/04/2021
Author:	Bhavini

Document Control

Version History

Version	Change Reference	Author	Date
1.0	Initial Draft	Bhavini	21/04/2021

TABLE OF CONTENTS

1 Overview

This document outlines the requirement of this integration and provides all required information for the development of this integration in Mule 4.

[redacted] Purpose of Document

The purpose of the integration design document is to detail the integration points between Weather API Clients and Global Weather systems API integration platform (ESB) using Real time integration patterns.

[redacted] Assumptions

NA

[redacted] Dependencies

NA

[redacted] Constraints

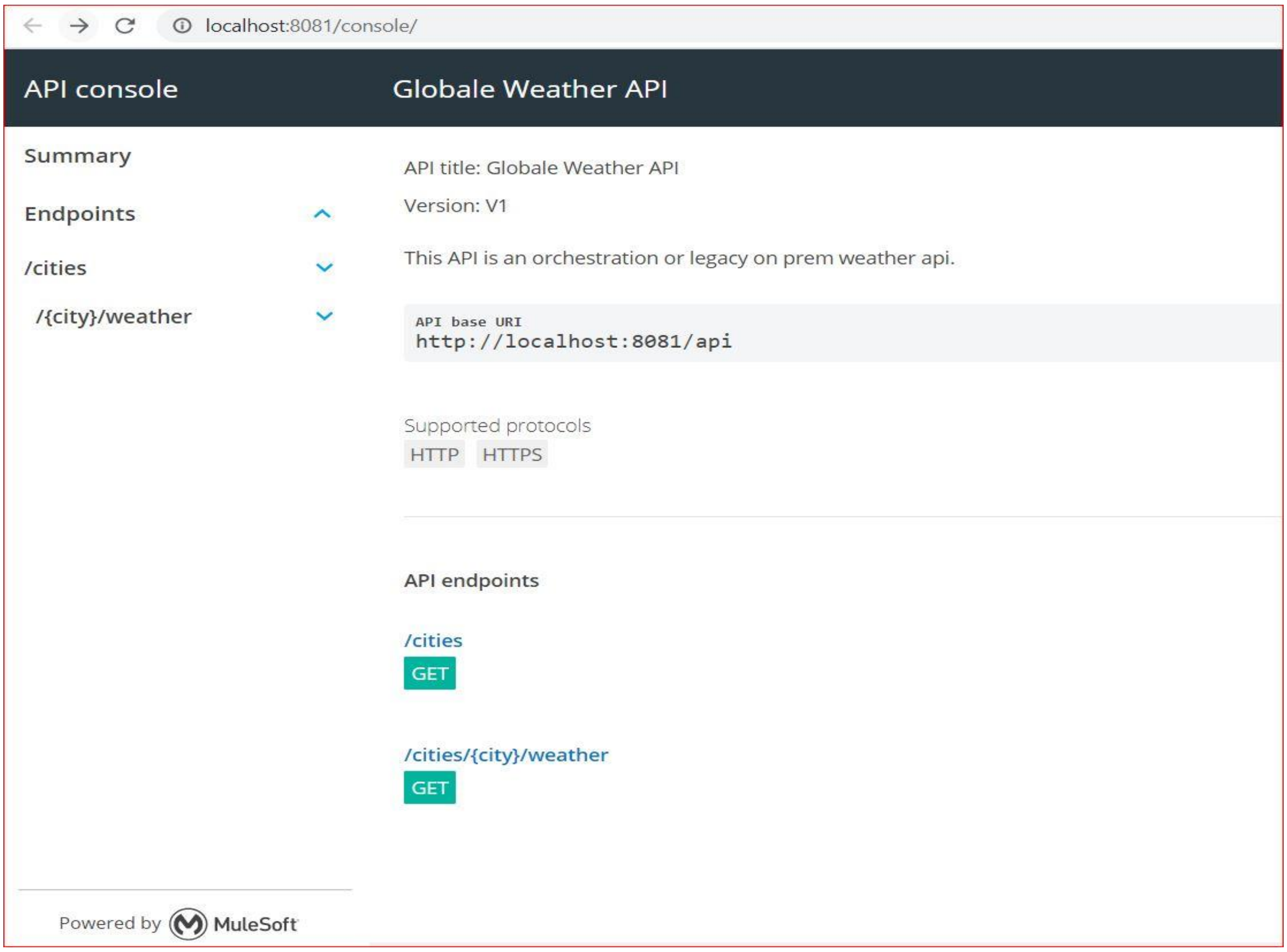
NA

2 Integration Overview

The Integration is responsible for exposing cities and weather information via a Restful API. The data exposed by this process will be extracted from the globalweather SOAP api.

Below table highlights the MuleSoft API URL and authentication details for the Cloudhub environments:

Environment (env)	HTTP Method	URL	Pattern
Dev	**Get**	http://localhost:8081/api/cities	Real Time
Dev	**Get**	http://localhost:8081/api/cities/{city}/weather	Real Time



API title: Globale Weather API

Version: V1

This API is an orchestration or legacy on prem weather api.

API base URI
http://localhost:8081/api

Supported protocols
HTTP HTTPS

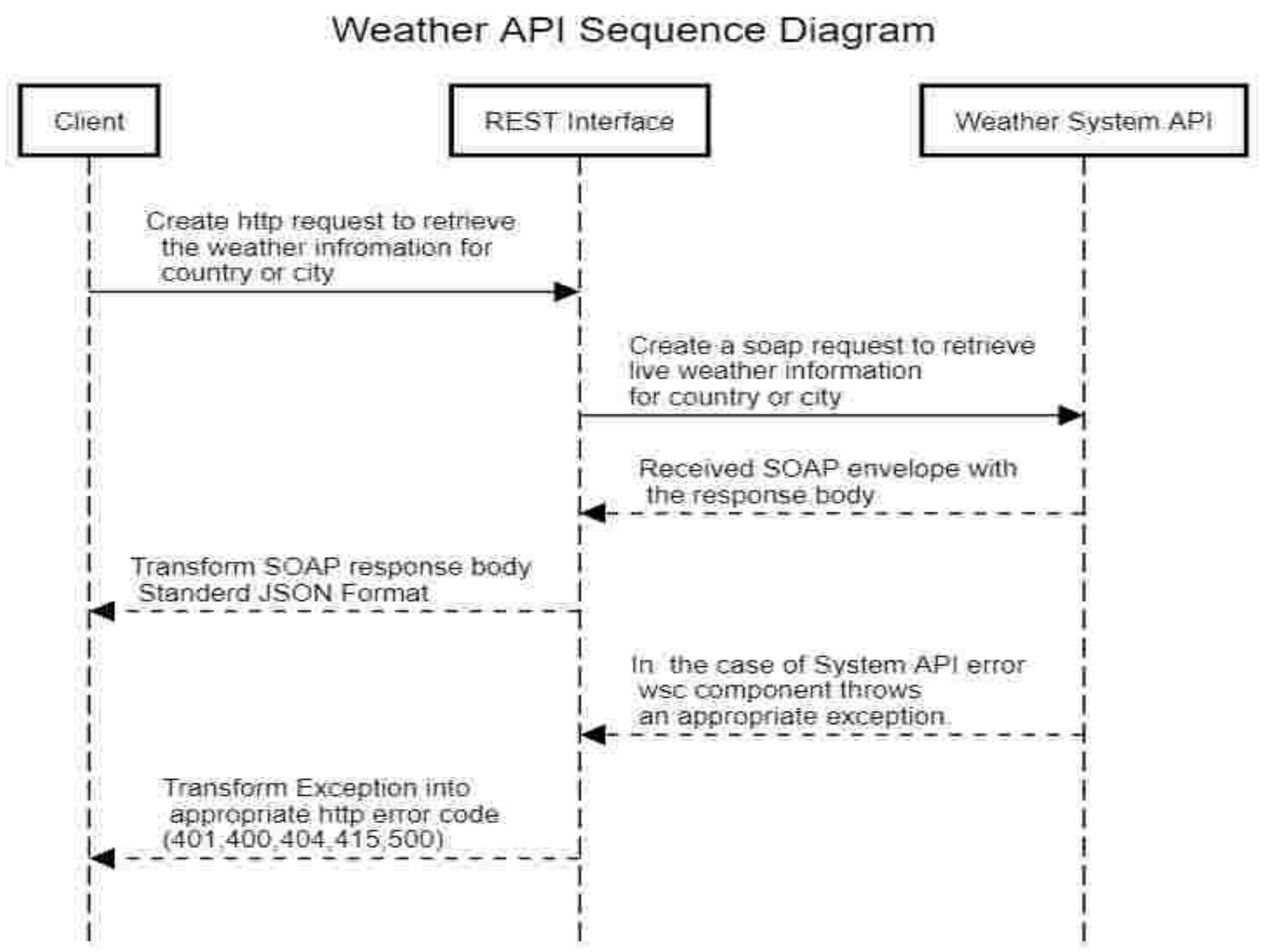
API endpoints

/cities
GET

/cities/{city}/weather
GET

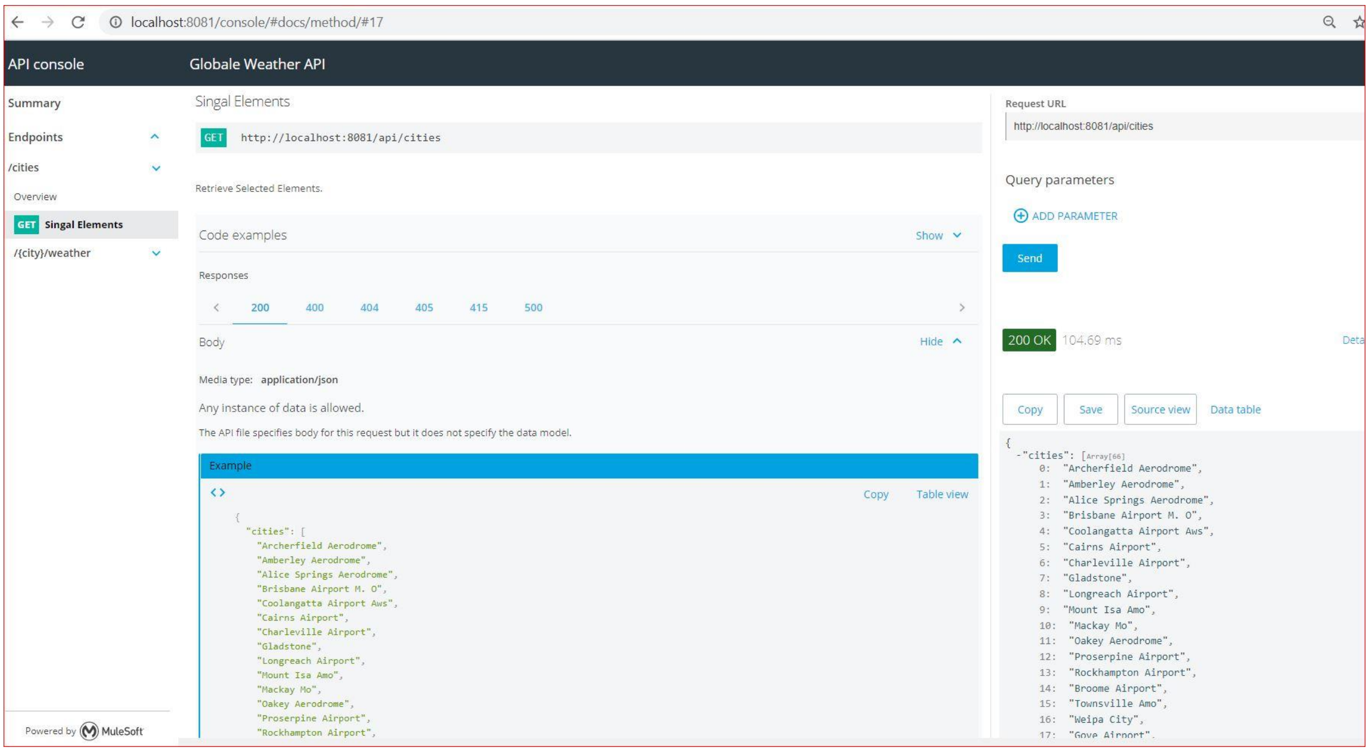
3 Detailed Design

- **The following sequence applies within this flow**:


Weather API Sequence Diagram
Client
REST Interface
Weather System API
Create http request to retrieve the weather infromation for country or city
Create a soap request to retrieve live weather information for country or city
Received SOAP envelope with the response body
Transform SOAP response body Standerd JSON Format
In the case of System API error wsc component throws an appropriate exception.
Transform Exception into appropriate http error code (401,400,404,415,500)

[redacted] Success JSON Response

The JSON response is as follows,



localhost:8081/console/#docs/method/#17

API console — Globale Weather API

Singal Elements

GET `http://localhost:8081/api/cities`

Retrieve Selected Elements.

Media type: application/json

Any instance of data is allowed.

The API file specifies body for this request but it does not specify the data model.

Example

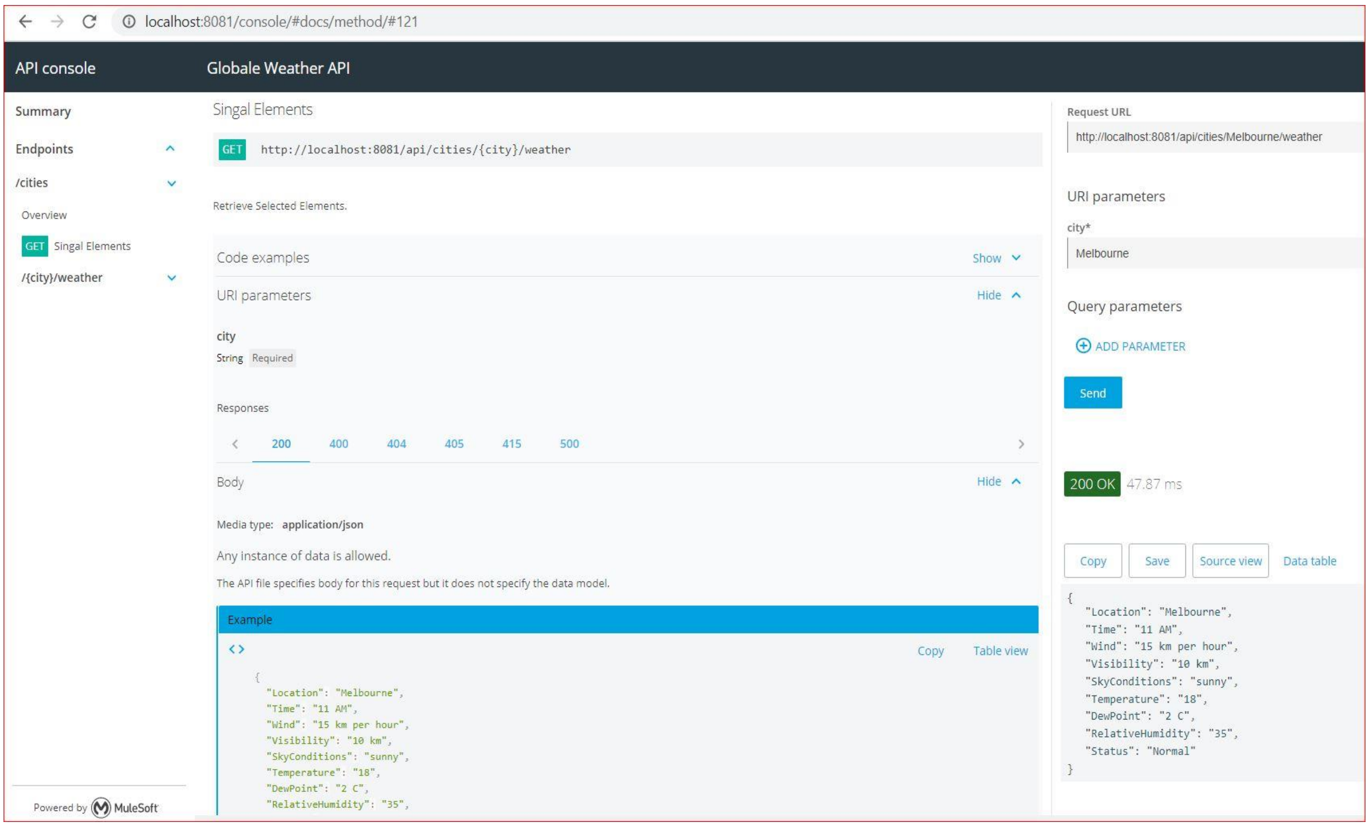
```
{
  "cities": [
    "Archerfield Aerodrome",
    "Amberley Aerodrome",
    "Alice Springs Aerodrome",
    "Brisbane Airport M. O",
    "Coolangatta Airport Aws",
    "Cairns Airport",
    "Charleville Airport",
    "Gladstone",
    "Longreach Airport",
    "Mount Isa Amo",
    "Mackay Mo",
    "Oakey Aerodrome",
    "Proserpine Airport",
    "Rockhampton Airport",
```

Request URL

http://localhost:8081/api/cities

200 OK 104.69 ms

```
{
 -"cities": [Array[66]
    0:  "Archerfield Aerodrome",
    1:  "Amberley Aerodrome",
    2:  "Alice Springs Aerodrome",
    3:  "Brisbane Airport M. O",
    4:  "Coolangatta Airport Aws",
    5:  "Cairns Airport",
    6:  "Charleville Airport",
    7:  "Gladstone",
    8:  "Longreach Airport",
    9:  "Mount Isa Amo",
    10:  "Mackay Mo",
    11:  "Oakey Aerodrome",
    12:  "Proserpine Airport",
    13:  "Rockhampton Airport",
    14:  "Broome Airport",
    15:  "Townsville Amo",
    16:  "Weipa City",
    17:  "Gove Airport",
```



localhost:8081/console/#docs/method/#121

API console — Globale Weather API

Singal Elements

GET `http://localhost:8081/api/cities/{city}/weather`

Retrieve Selected Elements.

city
String Required

Media type: application/json

Any instance of data is allowed.

The API file specifies body for this request but it does not specify the data model.

Example

```
{
  "Location": "Melbourne",
  "Time": "11 AM",
  "Wind": "15 km per hour",
  "Visibility": "10 km",
  "SkyConditions": "sunny",
  "Temperature": "18",
  "DewPoint": "2 C",
  "RelativeHumidity": "35",
```

Request URL

http://localhost:8081/api/cities/Melbourne/weather

URI parameters

city*

Melbourne

200 OK 47.87 ms

```
{
  "Location": "Melbourne",
  "Time": "11 AM",
  "Wind": "15 km per hour",
  "Visibility": "10 km",
  "SkyConditions": "sunny",
  "Temperature": "18",
  "DewPoint": "2 C",
  "RelativeHumidity": "35",
  "Status": "Normal"
}
```

[redacted] Exception Scenarios

In case the exception occurs in the MuleSoft application flow, the exception handling implemented will send an error message.

4 Payload Structure

[redacted] Request Payload Structure

No request payload. MuleSoft weather-api is a GET API.

[redacted] Response Payload Structure

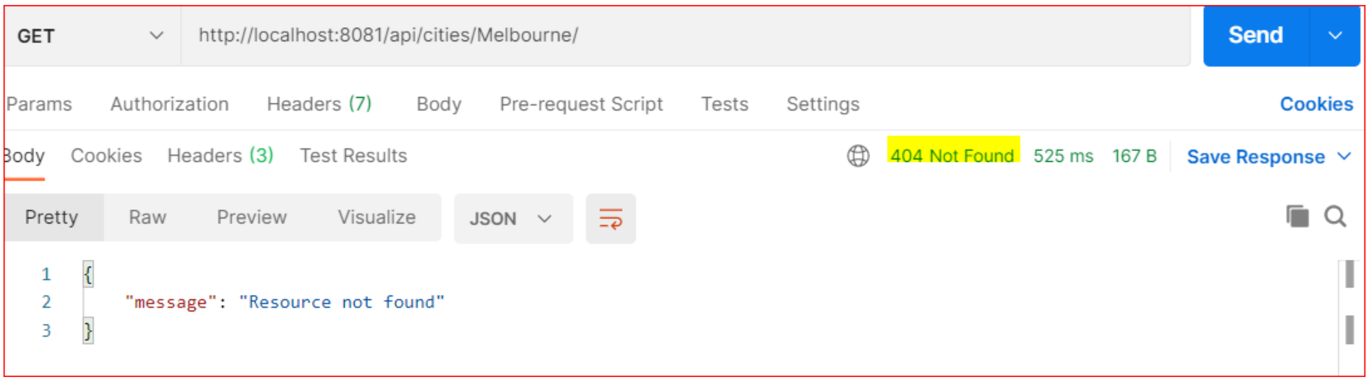
Mulesoft will get response as follows, success responses from weather-api is:

```
{
  "Location": "Melbourne",
  "Time": "11 AM",
  "Wind": "15 km per hour",
  "Visibility": "10 km",
  "SkyConditions": "sunny",
  "Temperature": "18",
  "DewPoint": "2 C",
  "RelativeHumidity": "35",
  "Status": "Normal"
}
```

5 Exception Handling

This integration handles the exceptions for possible exceptions that may occur. An example of the error message returned when error occurs in Mule flow is as below:

- { "message": "Bad request" }
- { "message": "Resource not found" }
- { "message": "Method not allowed" }
- {"message": "There is something wrong please contact the system administrator"}



```
{
    "message": "Resource not found"
}
```

6 Logging

This integration follows logging for all application logs.

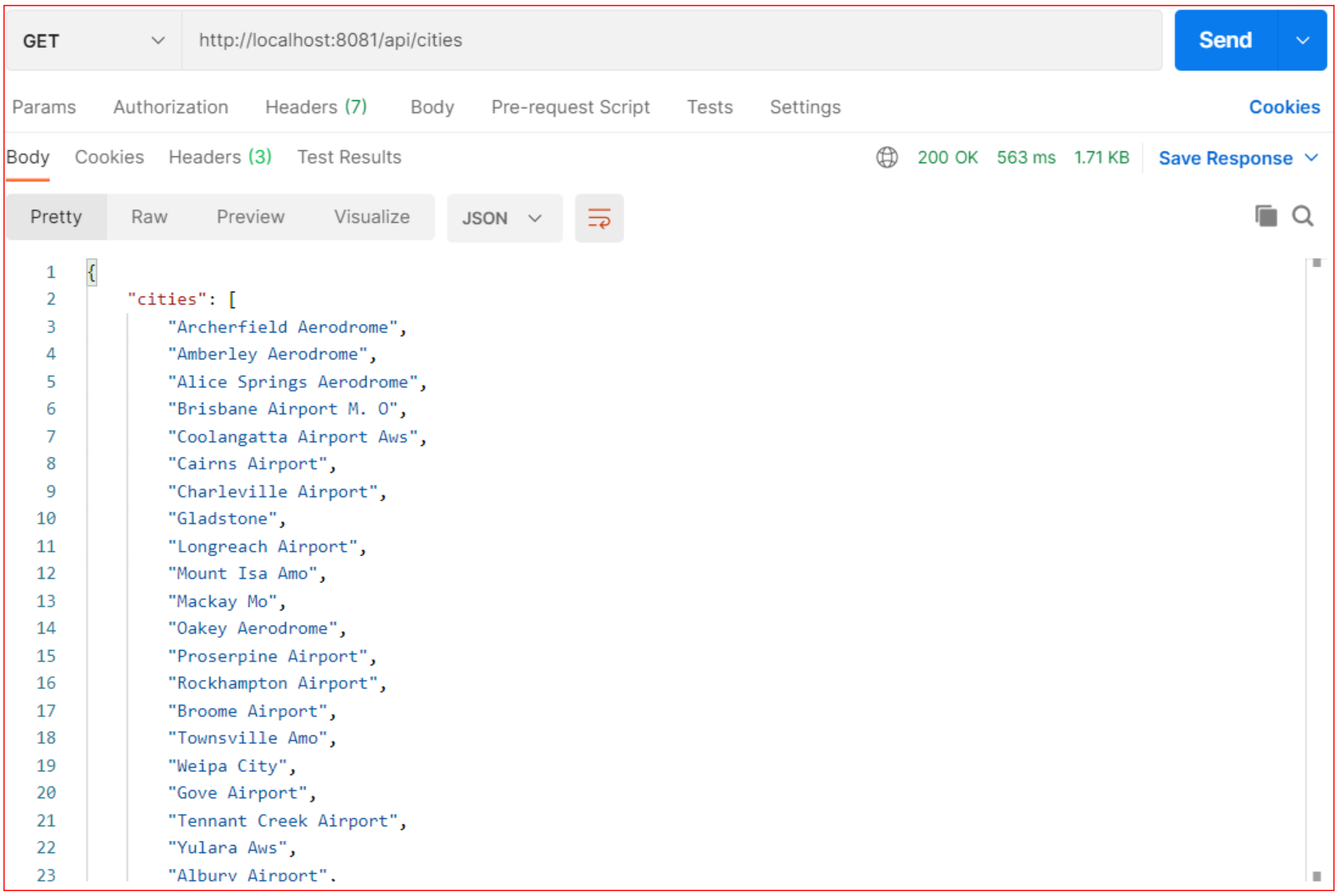
7 Test Scenarios

[redacted] Test Data

Unit Test Case 1: Sent in HTTP Request.

RequestURL: http://localhost:8081/api/cities

Response Details:

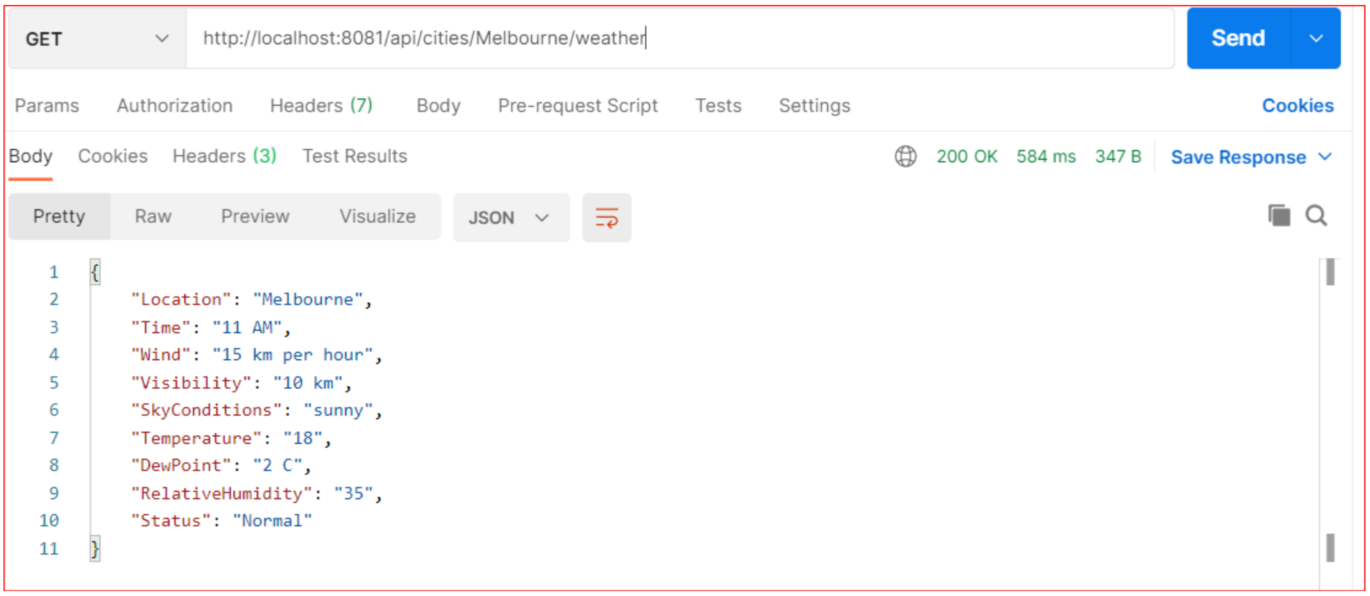


```
{
    "cities": [
        "Archerfield Aerodrome",
        "Amberley Aerodrome",
        "Alice Springs Aerodrome",
        "Brisbane Airport M. O",
        "Coolangatta Airport Aws",
        "Cairns Airport",
        "Charleville Airport",
        "Gladstone",
        "Longreach Airport",
        "Mount Isa Amo",
        "Mackay Mo",
        "Oakey Aerodrome",
        "Proserpine Airport",
        "Rockhampton Airport",
        "Broome Airport",
        "Townsville Amo",
        "Weipa City",
        "Gove Airport",
        "Tennant Creek Airport",
        "Yulara Aws",
        "Albury Airport",
```

Unit Test Case 2: city sent in URI param

RequestURL: http://localhost:8081/api/cities/Melbourne/weather

Response Details:

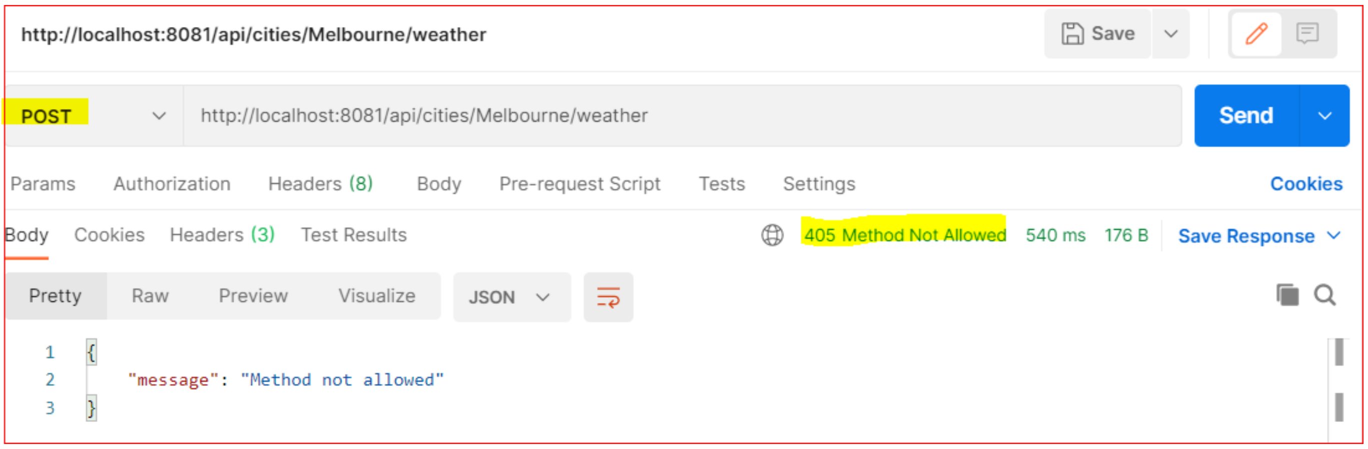

GET
http://localhost:8081/api/cities/Melbourne/weather
Send
Params Authorization Headers (7) Body Pre-request Script Tests Settings Cookies
Body Cookies Headers (3) Test Results
200 OK 584 ms 347 B Save Response
Pretty Raw Preview Visualize JSON

```
{
    "Location": "Melbourne",
    "Time": "11 AM",
    "Wind": "15 km per hour",
    "Visibility": "10 km",
    "SkyConditions": "sunny",
    "Temperature": "18",
    "DewPoint": "2 C",
    "RelativeHumidity": "35",
    "Status": "Normal"
}
```

Unit Test Case 3: Invalid HTTP method

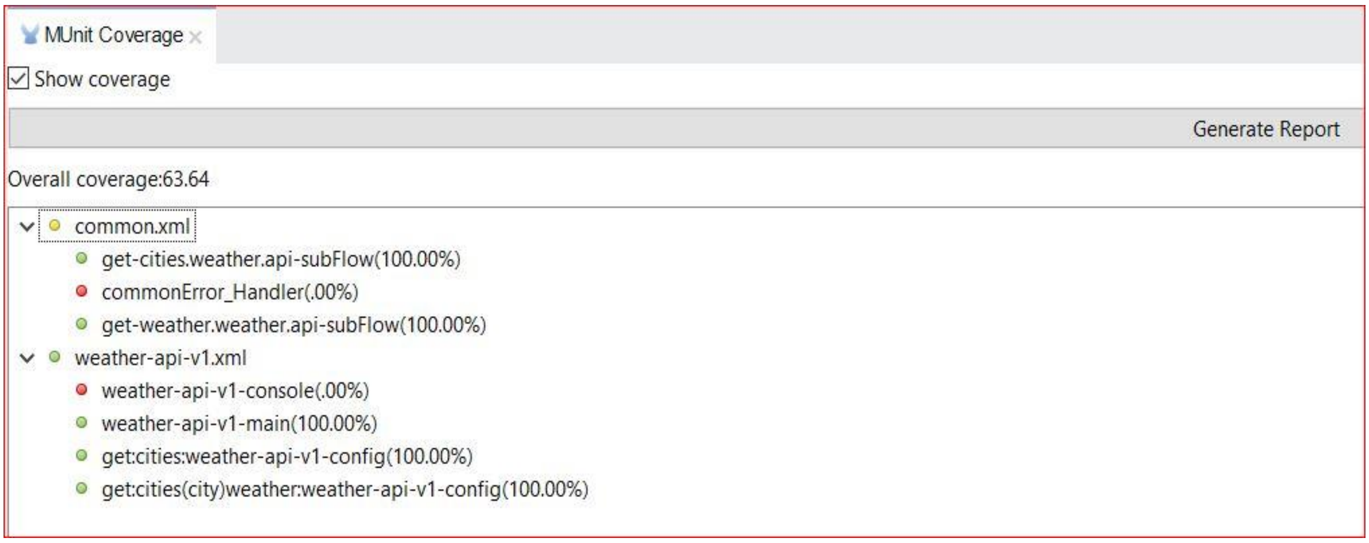
RequestURL: http://localhost:8081/api/cities/Melbourne/weather

Response Details:


http://localhost:8081/api/cities/Melbourne/weather
Save
POST
http://localhost:8081/api/cities/Melbourne/weather
Send
Params Authorization Headers (8) Body Pre-request Script Tests Settings Cookies
Body Cookies Headers (3) Test Results
405 Method Not Allowed 540 ms 176 B Save Response
Pretty Raw Preview Visualize JSON

```
{
    "message": "Method not allowed"
}
```

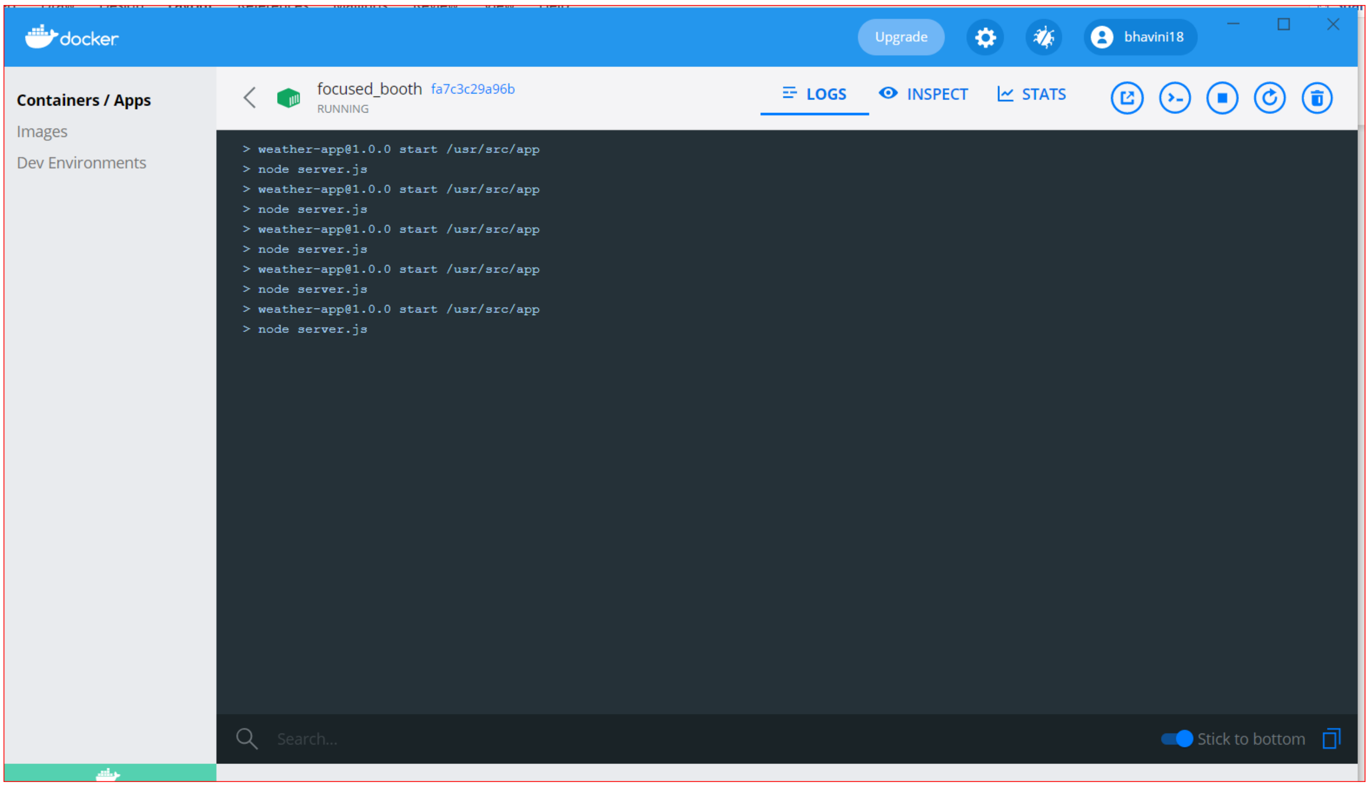
Munit Test Result:



Overall coverage:63.64

- common.xml
  - get-cities.weather.api-subFlow(100.00%)
  - commonError_Handler(.00%)
  - get-weather.weather.api-subFlow(100.00%)
- weather-api-v1.xml
  - weather-api-v1-console(.00%)
  - weather-api-v1-main(100.00%)
  - get:cities:weather-api-v1-config(100.00%)
  - get:cities(city)weather:weather-api-v1-config(100.00%)

Docker Set up:



```
> weather-app@1.0.0 start /usr/src/app
> node server.js
> weather-app@1.0.0 start /usr/src/app
> node server.js
> weather-app@1.0.0 start /usr/src/app
> node server.js
> weather-app@1.0.0 start /usr/src/app
> node server.js
> weather-app@1.0.0 start /usr/src/app
> node server.js
```

8 Deployment

The API will be deployed to Cloudhub beginning from the lower Development environment.