

# Cypress – API testing for absolute beginners

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## What is API?

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API stands for Application Programming Interface which helps two independent software to communicate with each other.

An API has functions and modules which help one system to communicate with another system which further helps in data exchange.

# What is a web service?

When an API communicates over Internet over HTTP protocol is known as a web service.

Example –

1. Login via Facebook and Gmail
2. All kind of aggregator websites like makemytrip.com, yatra.com etc.

## Let's talk about MakeMyTrip...

The screenshot displays the MakeMyTrip flight search interface. At the top, there are tabs for 'ONEWAY', 'ROUND TRIP', and 'MULTI CITY', with 'ONEWAY' selected. Below these tabs, the search criteria are as follows:



- FROM:** Delhi (DEL, Delhi Airport India)
- TO:** Bangalore (BLR, Kempegowda International Airp...)
- DEPARTURE:** 10 Aug '20, Monday
- RETURN:** A dropdown menu with the text 'Tap to add a return date for bigger discounts'.
- TRAVELLERS & CLASS:** 1 Traveller, Economy/Premium Economy

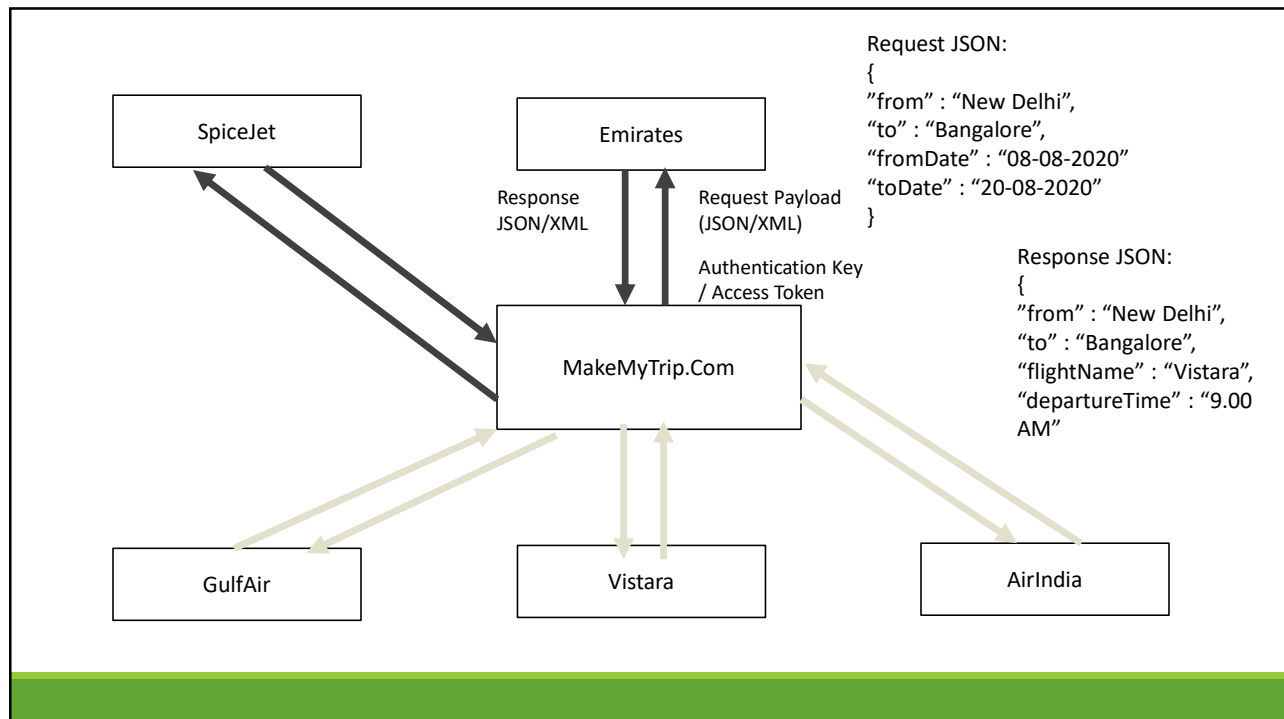
Below the search criteria, there is a section for 'Trending Searches' with three buttons: 'Bangalore → Singapore', 'Chennai → Hyderabad', and 'Mumbai → Goa'.

**Flights from New Delhi to Bengaluru**

	Mon,10 Aug ₹ 4,993	Tue,11 Aug ₹ 4,993	Wed,12 Aug ₹ 4,993	Thu,13 Aug ₹ 4,993	Fri,14 Aug ₹ 4,757	Sat,15 Aug ₹ 4,757	Sun,16 Aug ₹ 4,757	Mon,17 Aug ₹ 4,757
Sorted By:	Departure		Duration		Arrival		Price ↓	

**Important Advisories & State Guidelines**  
With travel opening up, govt. advisories and state/UT guidelines are constantly evolving. Please check the latest updates before travelling. [KNOW MORE](#)

 <b>Air India</b> AI-506	<b>11:50</b> New Delhi	<b>02 hrs 40 mins</b> Non stop	<b>14:30</b> Bengaluru	<b>₹ 4,993</b> <a href="#">VIEW PRICES</a>	<a href="#">Flight Details</a>
 <b>Vistara</b> UK-815	<b>13:15</b> New Delhi	<b>02 hrs 45 mins</b> Non stop	<b>16:00</b> Bengaluru	<b>₹ 4,993</b> <a href="#">VIEW PRICES</a>	<a href="#">Flight Details</a>



## What is REST API?

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REST stands for **REpresentational State Transfer**.

It is an architectural style that defines a set of constraints to be used for creating web services or API.

Web services which are built using REST are called REST API or RESTFul API or web services.

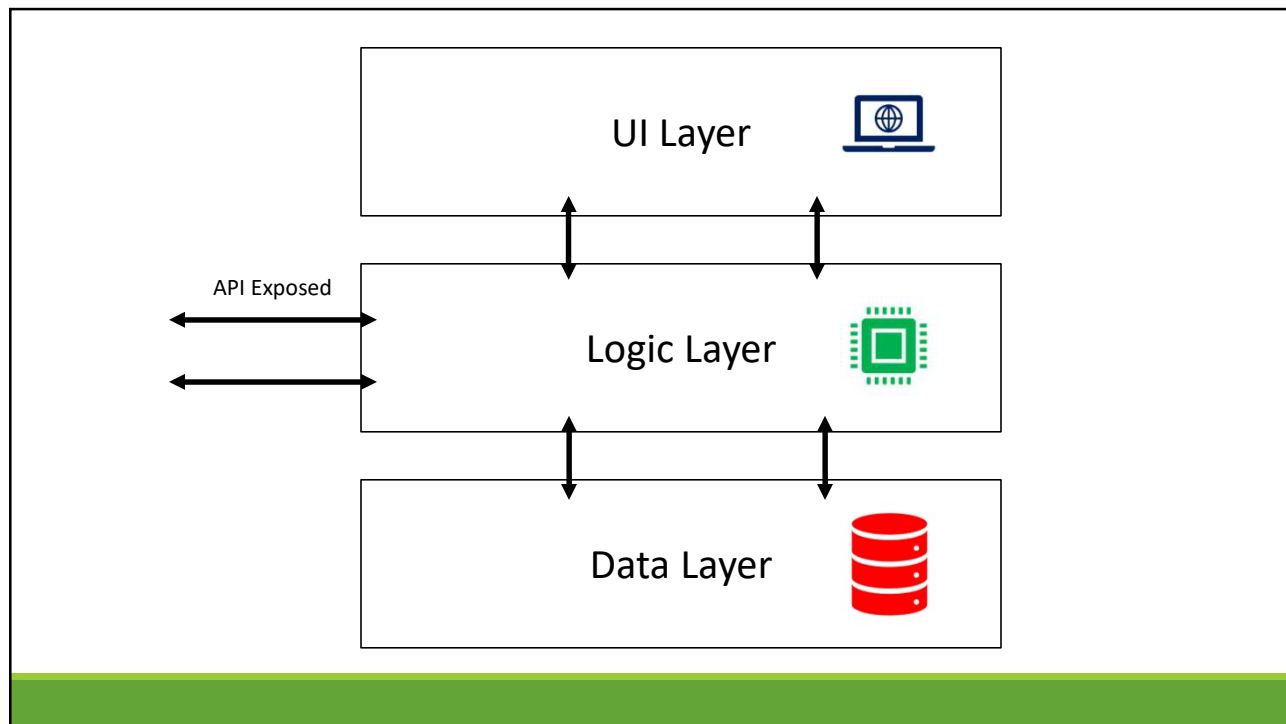
These web services provide communication between computer systems on the Internet.

## What is API Testing?

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API testing helps in validating the response coming from the Application Programming Interface.

With API testing, you can validate whether the functionality is working correctly or not.



## Why is API Testing Important?

When an application is built, the functionalities are developed first as APIs and then integrated with the frontend layer.

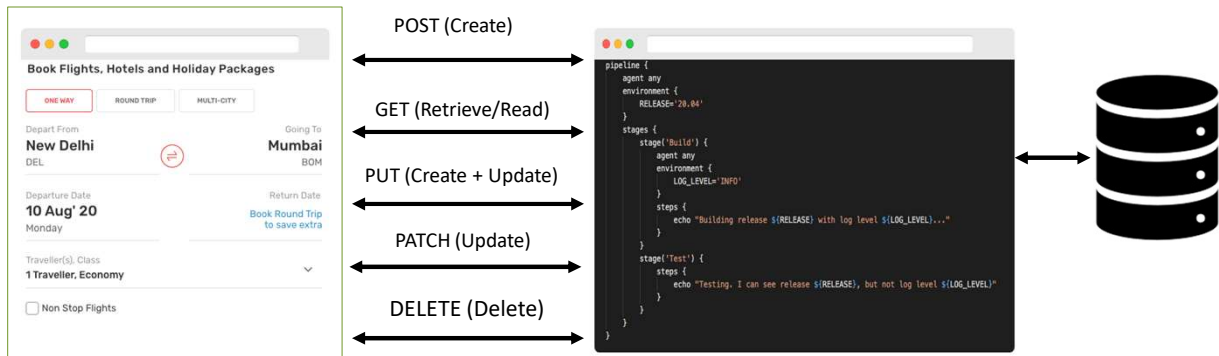
If you wait for the integration to find bugs in the application, then you will start adding cost to the bugs.

The later the bugs are found in the system, the more cost it adds to the application

# CRUD Operations

Client

Server

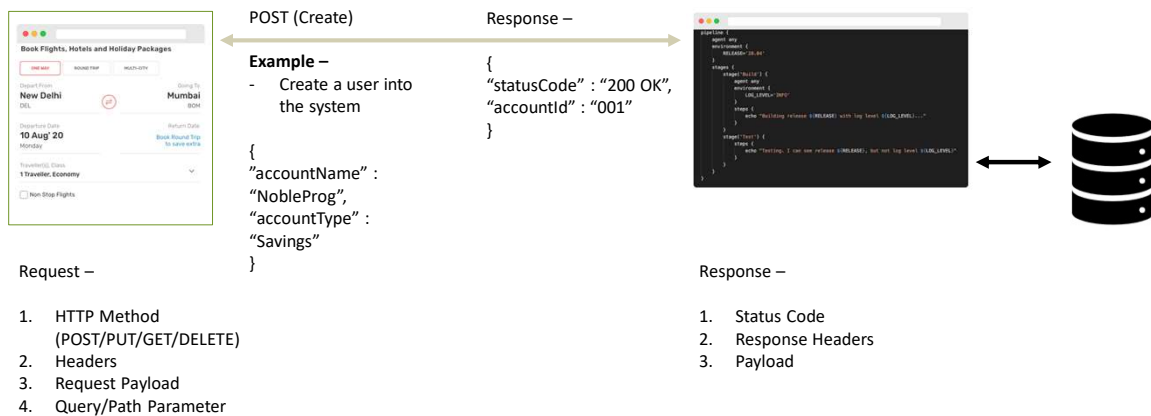


## Call flow

Client

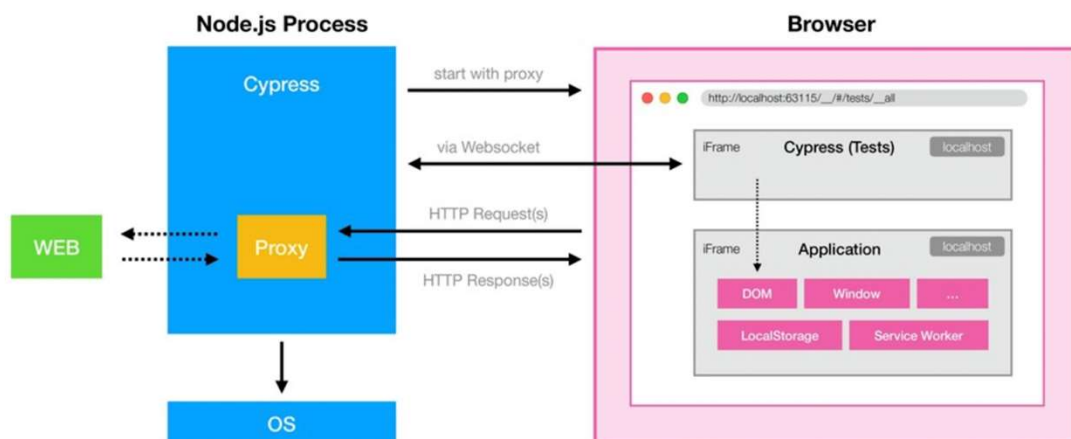
URL/URI

Server



# Status Code

1xx: Informational - It means the request has been received and the process is continuing.
2xx: Success - It means the action was successfully received, understood, and accepted.
3xx: Redirection - It means further action must be taken in order to complete the request.
4xx: Client Error It means the request contains incorrect syntax or cannot be fulfilled.
5xx: Server Error It means the server failed to fulfill an apparently valid request.



## Cypress environment setup

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- Install Chrome browser
- Install Nodejs
- Install Git
- IDE (Visual Studio code)
- Create a new project (npm init)
- Install Cypress (npm install cypress --save-dev)
- Open cypress for the first time (./node\_modules/.bin/cypress open or npx open cypress)
- Cypress Test runner and directory structure