

# Python Dictionaries and the JSON Format

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# Agenda

- Real-world example of Python dictionary use
- What is JSON?
- Similarities and differences between dictionaries and JSON
- Why is JSON important?
- Example of API calls
- Some popular APIs



# Real-World Example of Dictionary Use:

Python dictionaries allow python programmers to manipulate json files.



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# What is JSON?

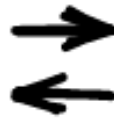
- JSON stands for JavaScript Object Notation
- JSON is a lightweight data-interchange format
- JSON is plain text written in JavaScript object notation
- JSON is used to send data between computers
- JSON is language independent

Source: [https://www.w3schools.com/js/js\\_json\\_intro.asp](https://www.w3schools.com/js/js_json_intro.asp)

JSON



```
{  
  "name": "John Doe",  
  "age": 32,  
  "address": {  
    "street": "123 Main St",  
    "city": "Anytown",  
    "state": "CA"  
  },  
  "tags": ["Finance", "Admin"]  
}
```



Python



```
{  
  "name": "John Doe",  
  "age": 32,  
  "address": {  
    "street": "123 Main St",  
    "city": "Anytown",  
    "state": "CA"  
  },  
  "tags": ["Finance", "Admin"]  
}
```

# Differences between Python Dictionaries and JSON

- JSON is a string; a dictionary is an object that is easy to manipulate.
- A JSON string can represent less data types than what is allowed in a python dictionary.
- JSON keys must be strings.
- JSON Values may be: Lists, Dictionaries, String, Integer, Float, Boolean, Null.
- Dictionary values may be any Python data type (Tuple, Set)
- Not all dictionaries may be converted to JSON.

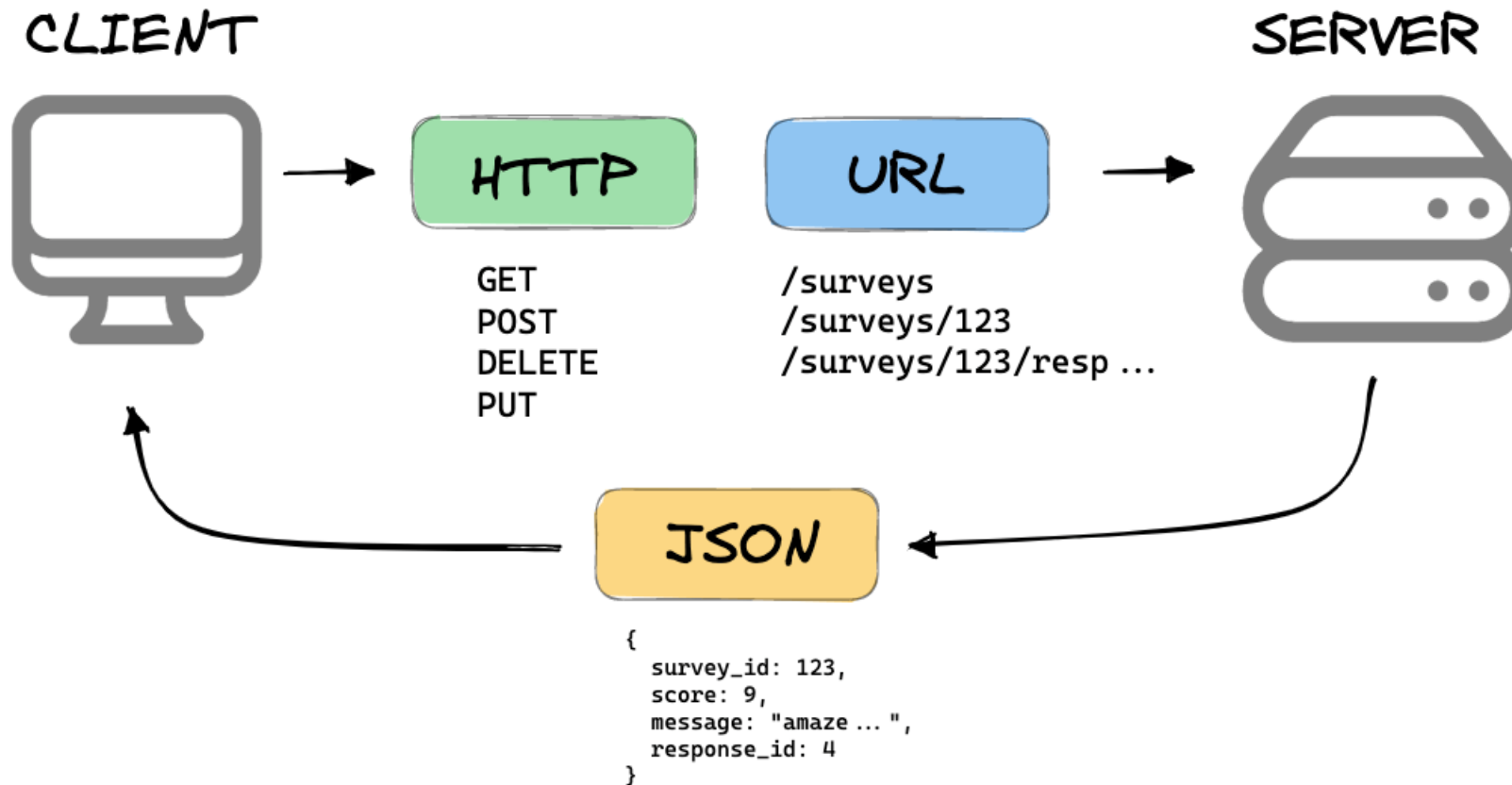


# Why is JSON important?



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Source: <https://images.ctfassets.net/vwq10xzb6iz/5sBH4Agl614xM7exeLsTo7/9e84dce01735f155911e611c42c9793f/rest-api.png>



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# Why is data exchanged in JSON format?

- The format doesn't take a lot of space (other formats produce much bigger files).
- It is very easy to manipulate.
- It includes data structures ready for use.



# Some Popular APIs



Paypal: used to integrate payment functionality into your app (process the payment, process a refund, ...)



Google Maps: display maps in your app



Twilio Messaging / SMS API enables developers to add messaging capabilities to their apps DocuSign



DocuSign is a platform for managing electronic signatures and document workflows.



Booking API is a travel booking platform that enables businesses to sell travel products such as flights, hotels, and activities.



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# Summary

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