📚 Code Examples: https://github.com/toliktemp/Postman_Exmpl

Swagger: https://rs-language-api.herokuapp.com/doc/#/Users/post_users
Swagger Petstore: https://petstore.swagger.io/v2/swagger.json

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📚 JSON Evaluator:

https://jsonbeautifier.org/

https://jsonpath.com/

https://jsoneditoronline.org/

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200 (OK)
201 (Created - Создано)
202 (Accepted - Принято)
204 (No Content - Нет контента)
301 (Moved Permanently - Перемещено навсегда)
302 (Found - Найдено)
303 (See Other - Смотреть другое)
304 (Not Modified - Не изменен)
307 (Temporary Redirect - Временный редирект)
400 (Bad Request - Плохой запрос)
401 (Unauthorized - Неавторизован)
403 (Forbidden - Запрещено)
404 (Not Found - Не найдено)
405 (Method Not Allowed - Метод не разрешен)
406 (Not Acceptable - Неприемлемый)
412 (Precondition Failed - Предусловие провалено)
415 (Unsupported Media Type - Неподдерживаемый медиа тип)
500 (Internal Server Error - Внутренняя ошибка сервера)
501 (Not Implemented - Не реализован)

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Learn JSON format

JSON (JavaScript Object Notation) is a lightweight data-interchange format.

JSON is a syntax for storing and exchanging data.

Data is placed in Json in the format of Key and Value pair

Value could be an array

Value can have further key-value(Call it object)

```
{
   "Name":"Testing World",
   "Age" : 23,
   "PhoneNumber" : "8743-913-121",
   "city" : ["Delhi","Mumbai","Banglore"],
   "Address" :
       {
           "StreetNAme":"ABCD",
           "HouseNumber" : "23D",
           "City" : "ABCDEF"
           "Number" :
              {
                 "Landline":"213324324",
                 "Mobile" : "42342324"
              }
       }
}
```

REST API REQUEST METHODS

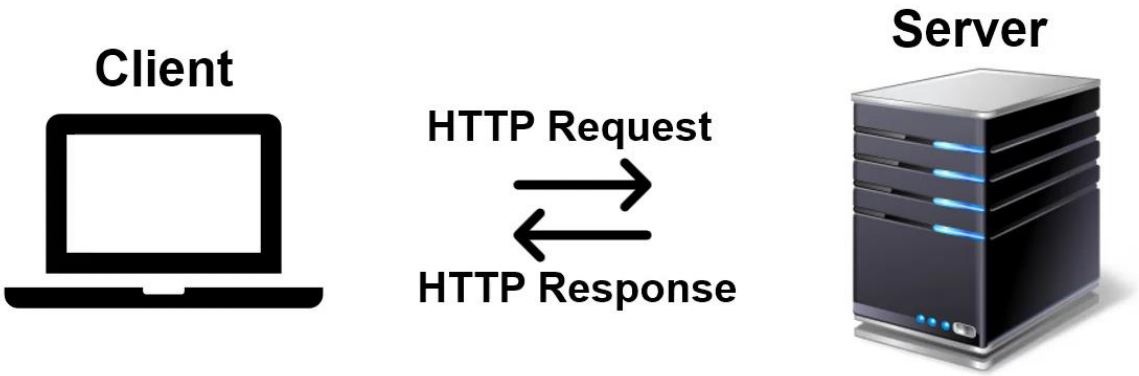
These methods define what kind of request we are sending to SERVER/APPLICATION

- GET : Fetch data from Application
- POST : Add new data/ resource to the Application
- PUT : Update data into application
- DELETE : Delete data in application
- PATCH : Similar to PUT method but will require only updated data to send

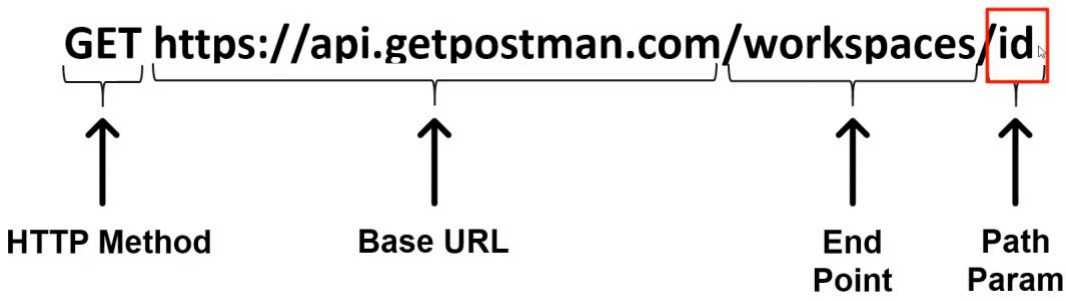
CRUD => Create / Insert : Post (insert) Read => Get (select)
Update: Put (update) Delete (delete)

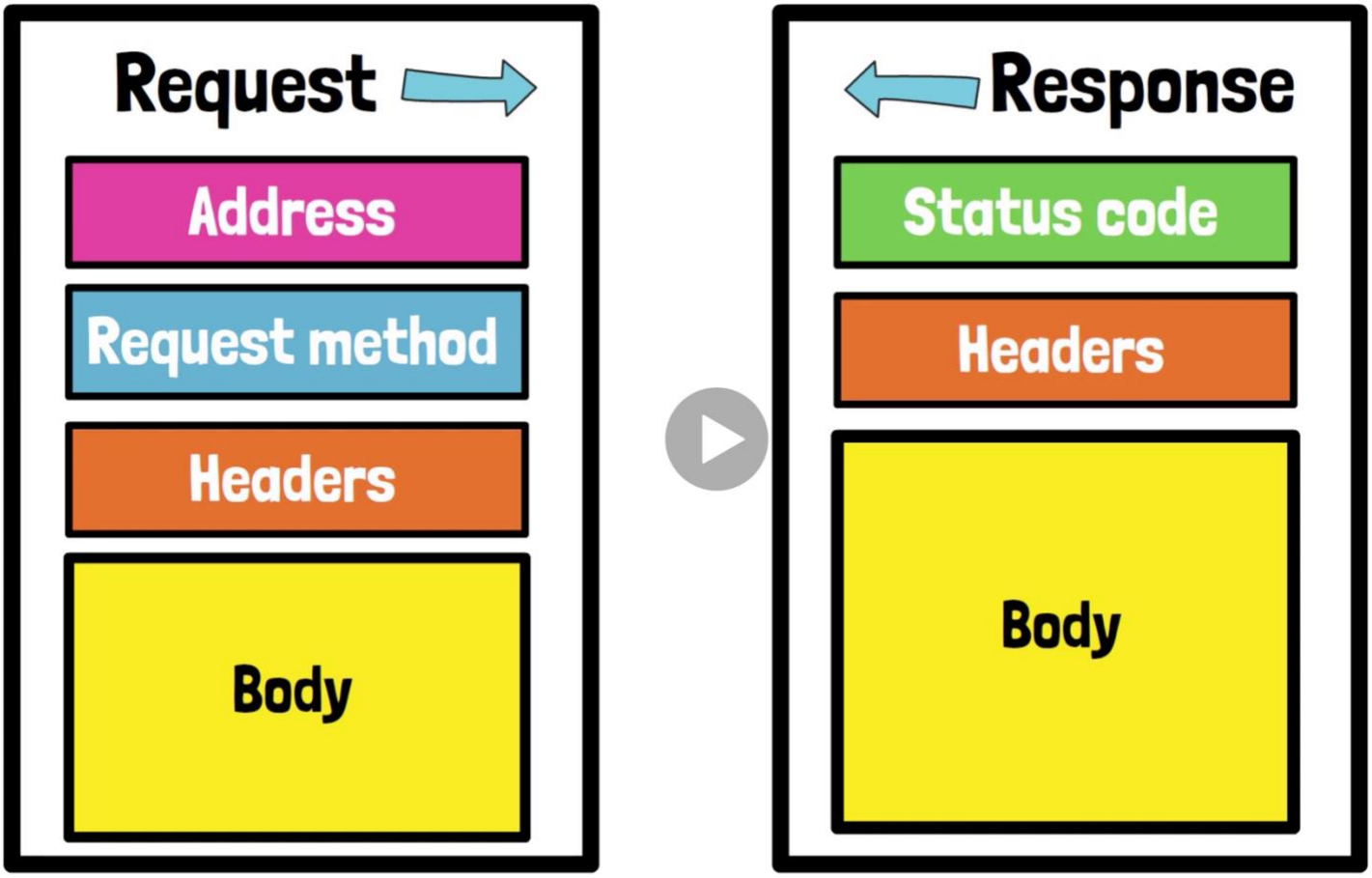
JSON

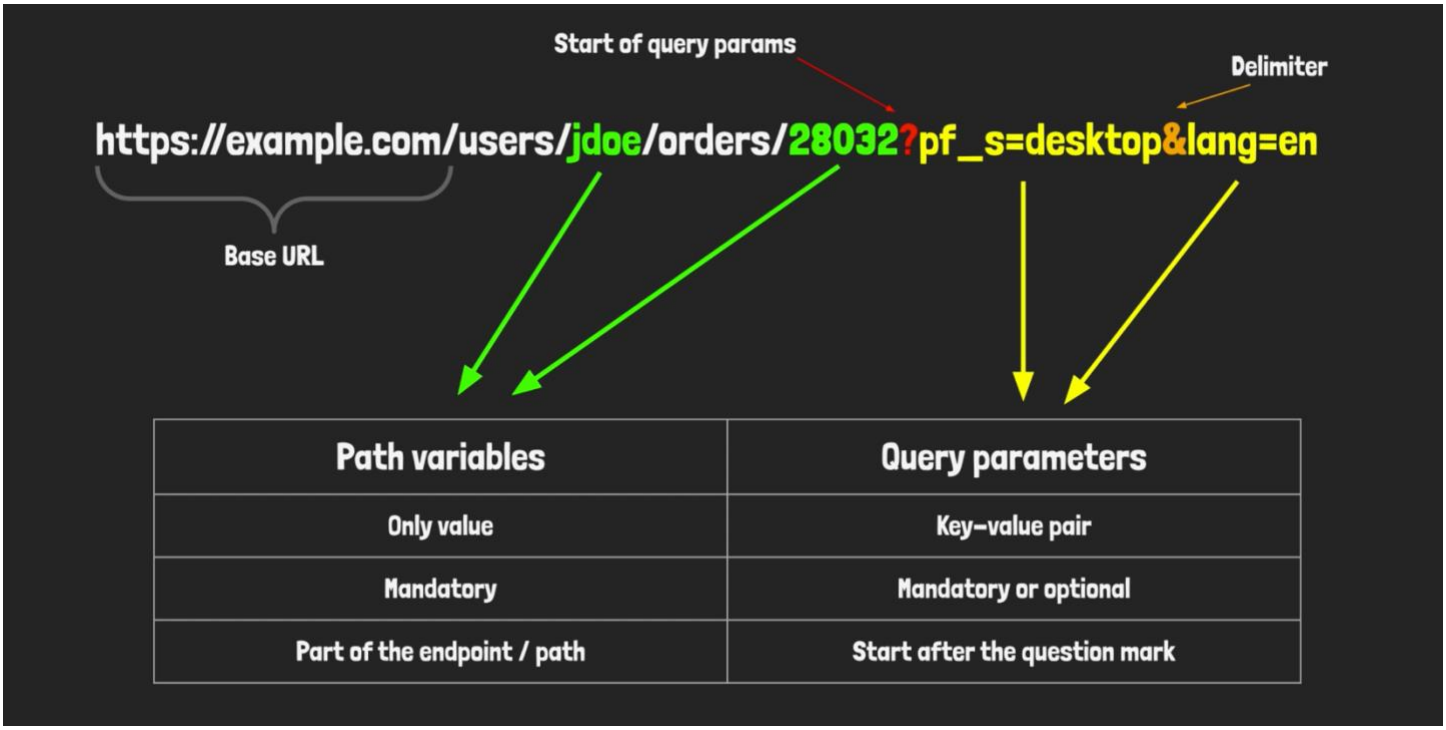
Client Server Architecture



Rest API Request







Path variables	Query parameters
Only value	Key–value pair
Mandatory	Mandatory or optional
Part of the endpoint / path	Start after the question mark

API Testing

- Get Request
- Pick Response
- Display Response
- Validate Status Code
- Validate Response Content
- Fetch Cookies
- Fetch Elapsed Time

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```python
import requests

# API URL
url = "https://reqres.in/api/users?page=2"

# Send Get Request
response = requests.get(url)
print(f"Response: => {response}\n")

# Display Response Content
print(f"Response Content: => {response.content}\n")
print(f"Header Response: => {response.headers}")



# Validate Status Code
print(f"Status Code: => {response.status_code}")

assert response.status_code == 200

# Fetch Response Header
print(f"Header Response: => {response.headers}")
print(f"Date: => {response.headers.get('Date')}")
print(f"Server: => {response.headers.get('Server')}")
```

```
# Fetch Cookies
print(f"Fetching Cookies: => {response.cookies}")


# Fetch Encoding
print(f"Encoding: => {response.encoding}")


# Fetch Elapsed time
print(f"Elapsed time: => {response.elapsed}")
```

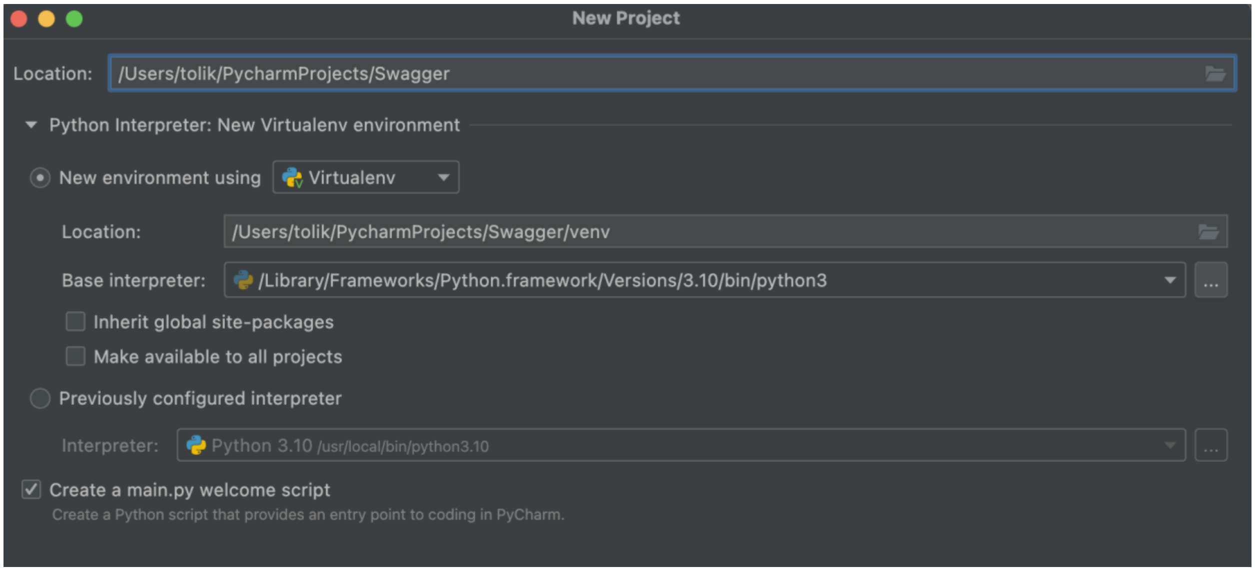
Send Headers with Request

URL: "http://httpbin.org/get"

Sending Customized Headers =>

```
import requests


# Customized header
header_data = {'T1': 'First_Header', 'T2': 'Second_Header'}

response = requests.get('http://httpbin.org/get', headers=header_data)

print(response.text)


''' Output:
{
  "args": {},
  "headers": {
    "Accept": "*/*",
    "Accept-Encoding": "gzip, deflate",
    "Host": "httpbin.org",
    "T1": "First_Header",
    "T2": "Second_Header",
    "User-Agent": "python-requests/2.28.1",
    "X-Amzn-Trace-Id": "Root=1-6328f8fe-20701f847153dd4f6eade3d2"
  },
  "origin": "67.180.123.128",
  "url": "http://httpbin.org/get"
}
'''
```

Create project Swagger



Install the following packages: requests, configparser, pytest

- Create the folder <TestCases> in the root of the project
-

Method GET:

Gets a chunk of words

- **Example Value**
- Schema

[
  {
   "id": "string",
   "group": 0,
   "page": 0,
   "word": "string",
   "image": "string",

```
    "audio": "string",
    "audioMeaning": "string",
    "audioExample": "string",
    "textMeaning": "string",
    "textExample": "string",
    "transcription": "string",
    "wordTranslate": "string",
    "textMeaningTranslate": "string",
    "textExampleTranslate": "string"
  }
]
```


```python
import json
import requests


def test_get_words():
    url = "https://rs-language-api.herokuapp.com/words"
    response = requests.get(url)
    data = response.json()
    print(f"\n\nStatus Response: {response.status_code}")

    print('\n***** Example of getting response\n')
    print(response.content)
    print('\ntext\n')
    print(response.text)

    print(f"Type: {type(data)}")
    print(f"Length: {len(data)}")
    print(f"1st record: {data[0]}")
    print(f"2nd record: {data[1]}")
    print(f"3rd record: {data[2]}")
    print(f"20th record(last): {data[19]}")

    print(f"Value of the first element from the list")
    print(data[0]['word'])
    print(data[0]['textExample'])

    print(f"\n ***** Get values of particular key in list of dictionaries *****")
    key_word = [key['word'] for key in data]
    print(key_word)

    assert response.status_code == 200
    assert data[0]['word'] == 'enjoy'
    assert (data[0]['textExample']) == "The woman <b>enjoys</b> riding her bicycle."
```

Gets a word with assets by id

/words/{id}

```
def test_get_words():

    global word_id
    url = "https://rs-language-api.herokuapp.com/words"
    response = requests.get(url)
    data = response.json()
    print(f"\n\nStatus Response: {response.status_code}")


    assert response.status_code == 200
    assert data[0]['word'] == 'enjoy'
    assert (data[0]['textExample']) == "The woman <b>enjoys</b> riding her bicycle."
    word_id = data[0]['id']
    # print(word_id)    # 5e9f5ee35eb9e72bc21af4aa


def test_get_word_by_id():
    url = "https://rs-language-api.herokuapp.com/words/"+str(word_id)
    response = requests.get(url)
    data = response.json()
    print(f"\nResponse Status Code: {response.status_code}")
    assert response.status_code == 200
    print(f"Data: {type(data)}")    # class 'dict'
    print(data)
    assert data['id'] == '5e9f5ee35eb9e72bc21af4aa'
    assert data['word'] == "enjoy"
    assert data['image'] == "files/01_0011.jpg"
    assert data['textMeaning'] == "To <i>enjoy</i> is to like something."
    assert data['textExample'] == "The woman <b>enjoys</b> riding her bicycle."
    assert data['textExampleTranslate'] == "Женщина любит кататься на велосипеде"
```

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```
import requests

response = requests.get('http://216.10.245.166/Library/GetBook.php',
             params={'AuthorName': 'Rahul Shetty'},)

print(f"Response : {response.text}")
```

```python
import json

import requests

response = requests.get('http://216.10.245.166/Library/GetBook.php',
             params={'AuthorName': 'Rahul Shetty3'},)

print(f"Response : {response.text}")


# Response Output:
[{"book_name":"Jmeter","isbn":"Amit","aisle":"234"},{"book_name":"Jme
ter","isbn":"Sumit","aisle":"234"},{"book_name":"Automation
Everywhere -
Siddhant","isbn":"test","aisle":"32659"},{"book_name":"Automation
Everywhere -
Siddhant","isbn":"sicddh","aisle":"12345"},{"book_name":"Automation
Everywhere - Siddhant","isbn":"priyca","aisle":"65986"}]
print(type(response.text))  # <class 'str'>




# First method to extract data
dict_response = json.loads(response.text)
# print(type(dict_response))
# print(dict_response[0]['isbn'])
# print(dict_response[1]['book_name'])



# Second method to extract data
json_response = response.json()
print(type(json_response))  # <class 'list'>
print(json_response[0]['isbn'])
print(json_response[0]['book_name'])
```

```
def test_signin_with_authentication():
    auth_token = 'swagger'
    head = {'Authorization': 'Bearer ' + auth_token}
    response = requests.post("https://rs-language-api.herokuapp.com/signin",
                             auth=HTTPBasicAuth('doe@example.com', 'passw0rd'),
                             headers=head, )
    print(response.headers.get('Server'))
    print(response.headers.get('X-Frame-Options'))
    print(response.headers.get('Strict-Transport-Security'))
    print(response.headers.get('Content-Type'))
    print(response.status_code)
    print(response.text)
```