PYTHON MODULE TO MONITOR A WEBSITE AVAILABILITY

AIM: To Write a python module to monitor a website's availability. It has to scan a website like facebook.com if it is up or down. The tool has to run in a threaded approach so that it can monitor multiple URL/website and report when it is not available

APPLICATIONS:

- Pycharm

What is website monitoring?

Website Monitoring is an all-encompassing term for any activity that involves testing a website or web service for availability, performance, or function. A Website Monitoring service checks and verifies that the site is up and working and site visitors can use the site as expected.

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What types of Website Monitoring are there?

The types of Website monitoring are

- Availability monitoring
- Basic Website and API monitoring
- Service availability
- Advance availability
- Performance monitoring
- Functionality monitoring

Now I am working on Availability working.

Why do we need Website Monitoring?

- Keep visitors and customers happy
- Detect hackers faster
- Website availability and search engine ranking
- Get alerted when your site goes offline
- Know your site's stability over time
- Save time and gain peace of mind
- Be in control during downtime
- Be sure of the website's speed
- Get honestly from your Hosting company

These are the reasons for we need to monitor websites.

Advantages and Disadvantages of Website Monitoring:

Advantages of Website monitoring :

- 24/7 website uptime checking
- Check website performance
- Monitor all of your systems, such as APIs
- Prevent website downtime and save money

Disadvantages of Website monitoring:

- Not monitoring the right website or system
- Time-consuming
- IP blacklisted

HTTP response status codes:

HTTP response status codes indicate whether a specific HTTP request has been completed. Responses are grouped into five classes:

1. Informational responses (100–199)
2. Successful responses (200–299)
3. Redirection messages (300–399)
4. Client error responses (400–499)
5. Server error responses (500–599)

100 – Informational

Communicates transfer protocol-level information

200 – ok

The request succeeded. The result meaning of "success" depends on the HTTP method

300 – Redirection

Indicates that the client must take some additional action to complete their request

404 - Not Found

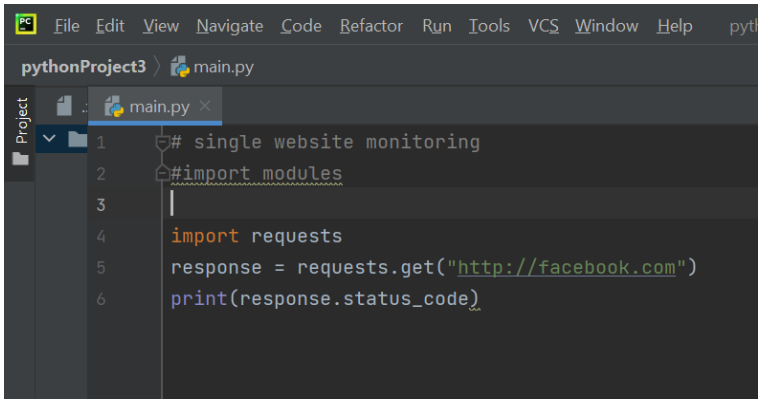
The server can not find the requested resource. In the browser, this means the URL is not recognized. This category of error status codes points the finger at clients

500 – Server Error

The server takes responsibility for these error status codes

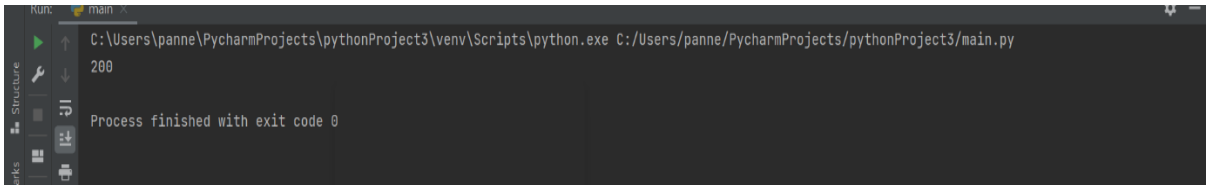
PYTHON SCRIPT :

- Single website monitoring



- First import all modules

OUTPUT :

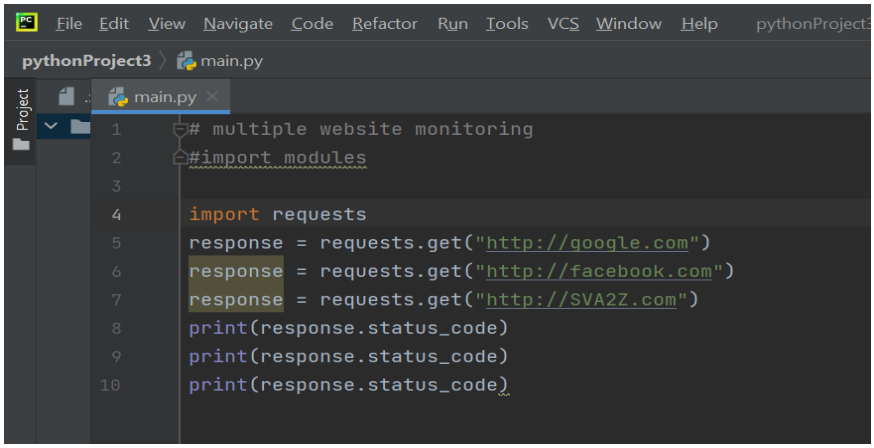


200 - ok = the website is up / the website is available

- Multiple website monitoring:

There are two ways for monitoring multiple websites

Python script:



OUTPUT:

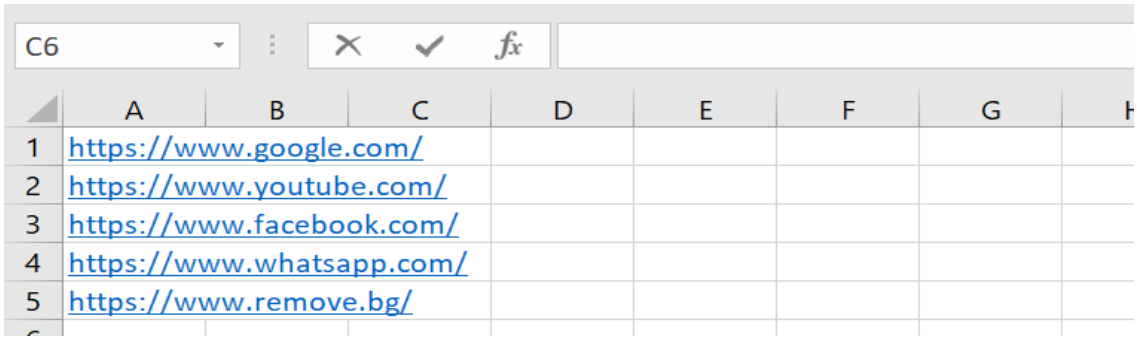
http://facebook.com – 200 – available

http://google.com – 200 – available

http://sva2z.com – 200 – available

second method:

- Create an excel sheet and save which websites to monitor

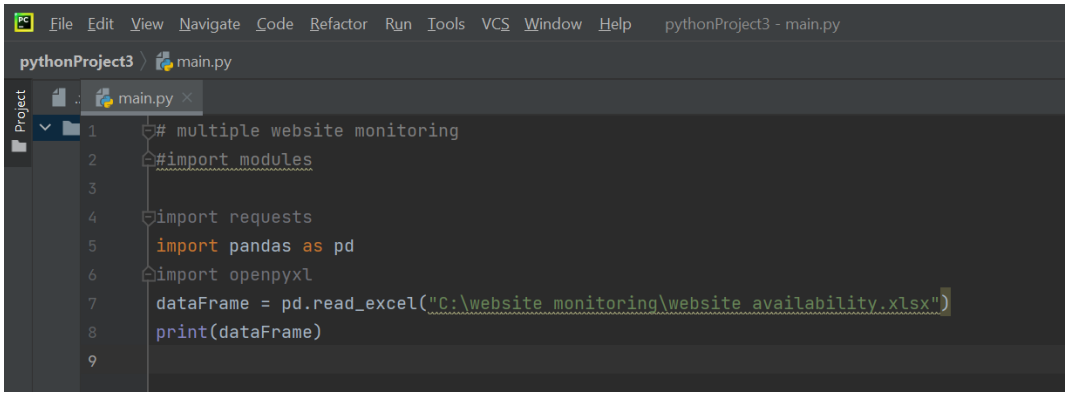


PYTHON SCRIPT:

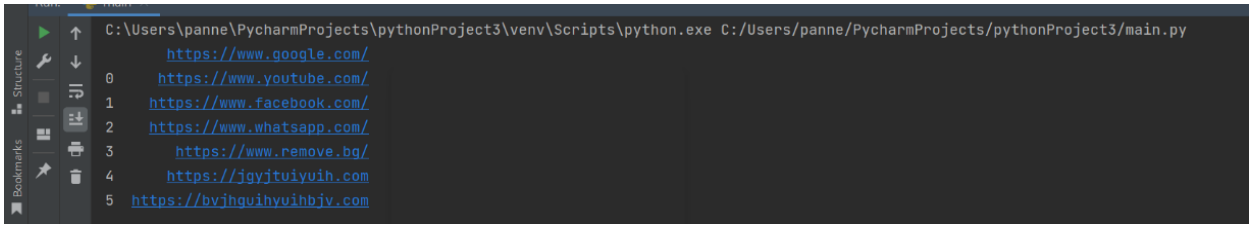
Import all modules

- Requests
- Pandas
- Openpyxl

INPUT:



OUTPUT:



https://www.google.com/

0 https://www.youtube.com/

1 https://www.facebook.com/

2 https://www.whatsapp.com/

3 https://www.remove.bg/

https://www.google.com/

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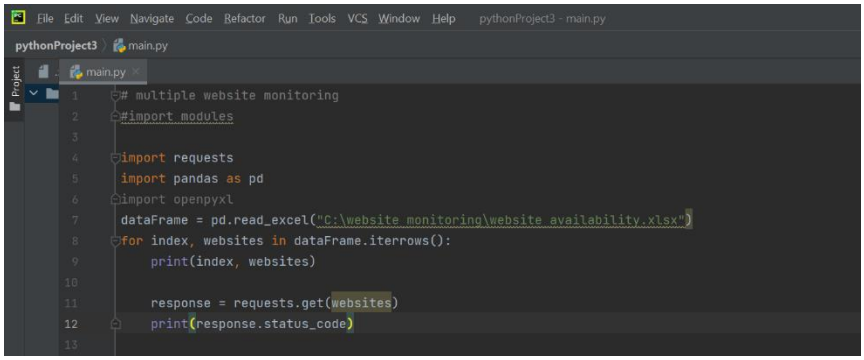
2 https://www.whatsapp.com/

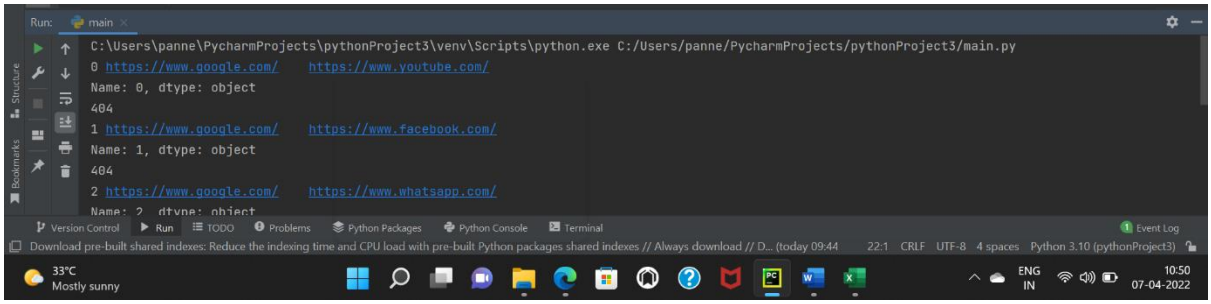
3 https://www.remove.bg/

Now, check which website is UP/DOWN

PYTHON SCRIPT:



OUTPUT:



OUTPUT:

0 https://www.google.com/

Name: 0

200

1 https://www.facebook.com/

Name: 1

200

2 https://www.whatsapp.com/

Name: 2

200

3 https://www.remove.bg/

Name: 3

200

4 https://www.jgyjtuiyuih.com/

Name:4

404 – not available

5 https://www.bvjhguihbjv.com/

Name:5

404 – not available

Reference :

- https://restfulapi.net/http-status-codes/
- https://www.uptrends.com/what-is/website-monitoring
- https://youtu.be/hJBk0H5jPfg
- https://youtu.be/r00y5Sk1KK8