Website Blocker Using Python

This is real world program which blocks certain distracting website like Facebook, Youtube etc during your work hours.

About the program :

What we are going to in this program is that we will pass the link of websites which you think is distracting and the time that you are working on your computer and program will block those website.

1. Every system have **host** file whether it is Mac, Windows or Linux.
   Host file in Mac and Linux :

   ```
   /etc/hosts
   ```

   Host file in Windows:
   C:\Windows\System32\drivers\etc

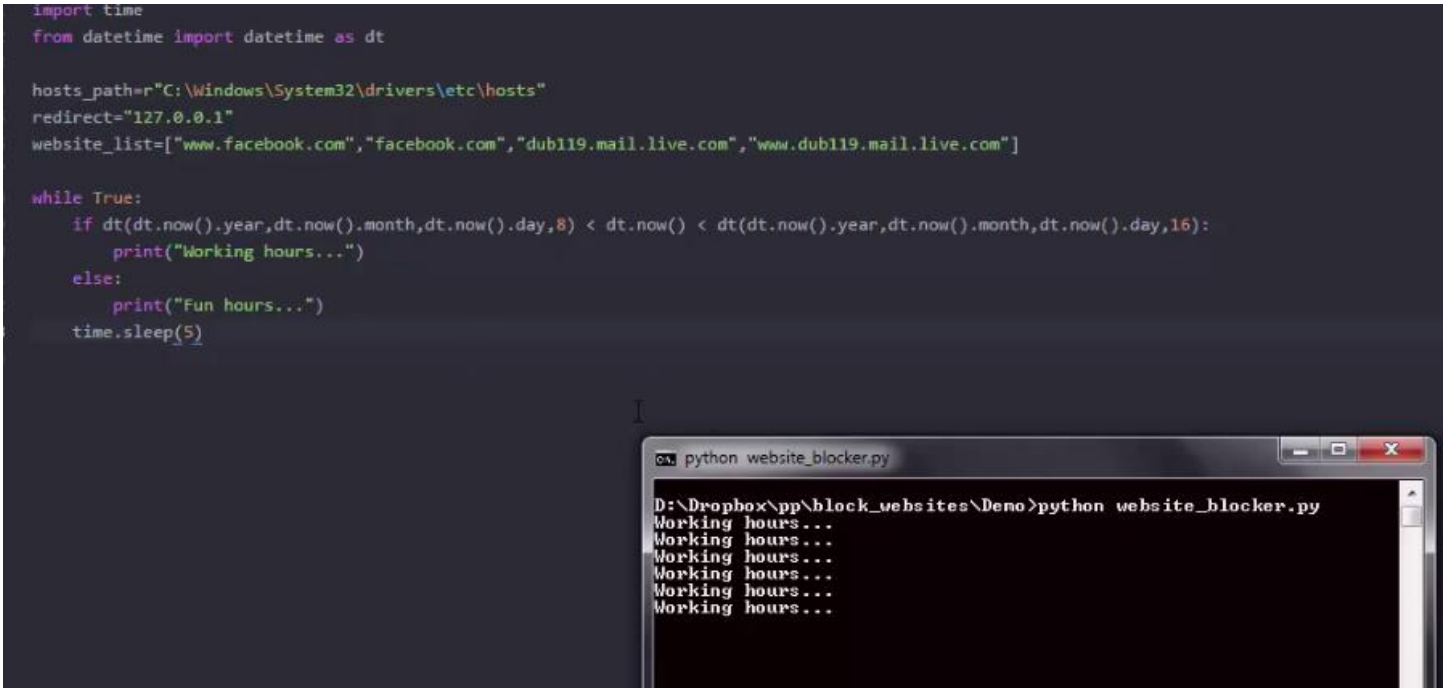
Working of host file: Host is an operating system file which maps hostnames to IP addresses. In this program we will be mapping hostnames of websites to our localhost address. Using python file handling manipulation we will write the hostname in hosts.txt and remove the lines after your working hours.

```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#      102.54.94.97     rhino.acme.com          # source server
#       38.25.63.10     x.acme.com              # x client host

# localhost name resolution is handled within DNS itself.
#   127.0.0.1       localhost
#   ::1             localhost
```

Now our code runs all the time using while loop which helps us to block the website continuously specifically every five seconds.

```
import time
hosts_path=r"C:\Windows\System32\drivers\etc\hosts"
redirect="127.0.0.1"
website_list=["www.facebook.com","facebook.com","dub119.mail.live.com","www.dub119.mail.live.com"]

while True:
    print(1)
    time.sleep(5)
```

Further we create conditionals for our while loop to iterate through every 5 seconds which also checks whether are we in working hours or not,so it can block the website for us.



Now we will make more changes so that our script that checks if the current time is between the two times (working hour or free hour) and it appends the four lines in the hosts file

```
import time
from datetime import datetime as dt

hosts_temp="hosts"
hosts_path=r"C:\Windows\System32\drivers\etc\hosts"
redirect="127.0.0.1"
website_list=["www.facebook.com","facebook.com","dub119.mail.live.com","www.dub119.mail.live.com"]

while True:
    if dt(dt.now().year,dt.now().month,dt.now().day,13) < dt.now() < dt(dt.now().year,dt.now().month,dt.now().day,16):
        print("Working hours...")
        with open(hosts_temp,'r+') as file:
            content=file.read()
            for website in website_list:
                if website in content:
                    pass
                else:
                    file.write(redirect+" "+ website+"\n")
    else:
        print("Fun hours...")
    time.sleep(5)
```

And if our conditionals happens to be false we want to execute something else,that is deleting the four lines by opening the host file ,we need to read and append again and we would store the lines in the content list ,that's puts a pointer which means everything that you do after that will be applied to the host file

Using seek method in python will help to point the pointer at the start of the host file so if we iterate through the content list in the file and check any of the website in the content list is in the current line or not ,if it is not there in the current line then we will write down the line in the hosts file and we will truncate everything that goes under that so it will be deleted from the file

```
else:
    with open(hosts_temp,'r+') as file:
        content=file.readlines()
        file.seek(0)
        for line in content:
            if not any(website in line for website in website_list):
                file.write(line)
        file.truncate()
    print("Fun hours...")
```

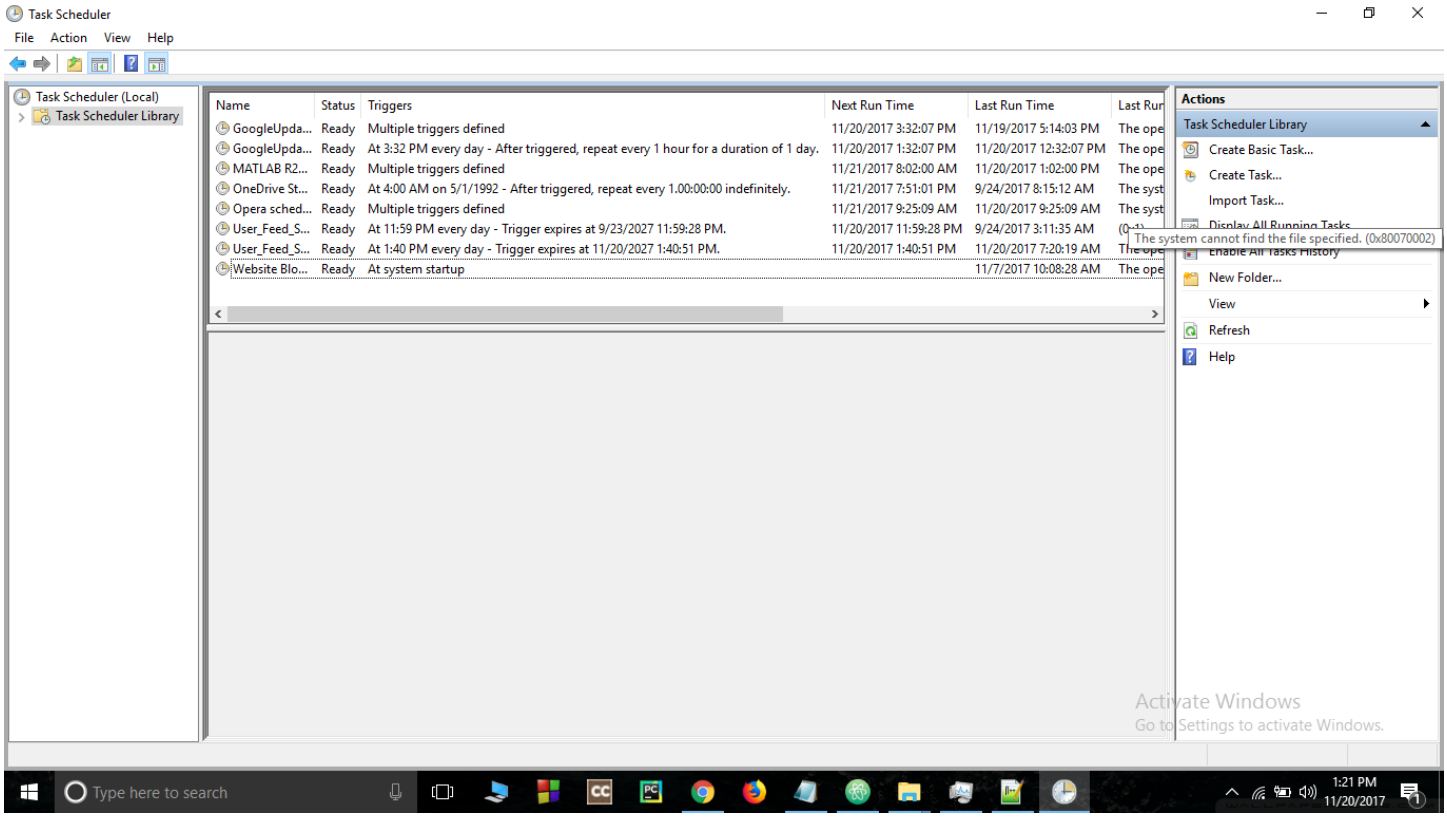
Now our program will be scheduled and will depending on the time what it is.

Scheduling in Windows:

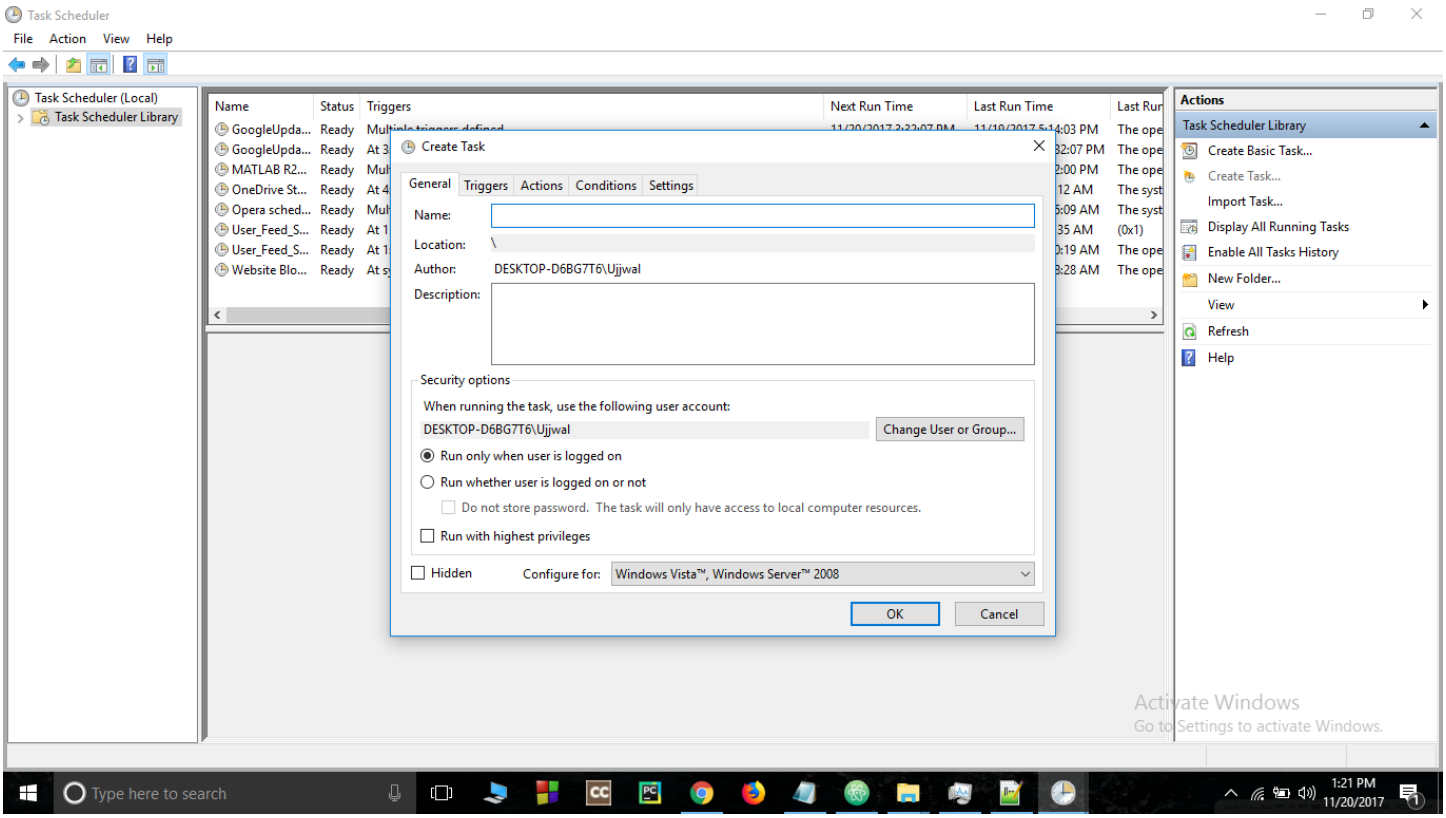
Scheduling in Windows: Scheduling of above script is little bit trick but I will guide you step by step-

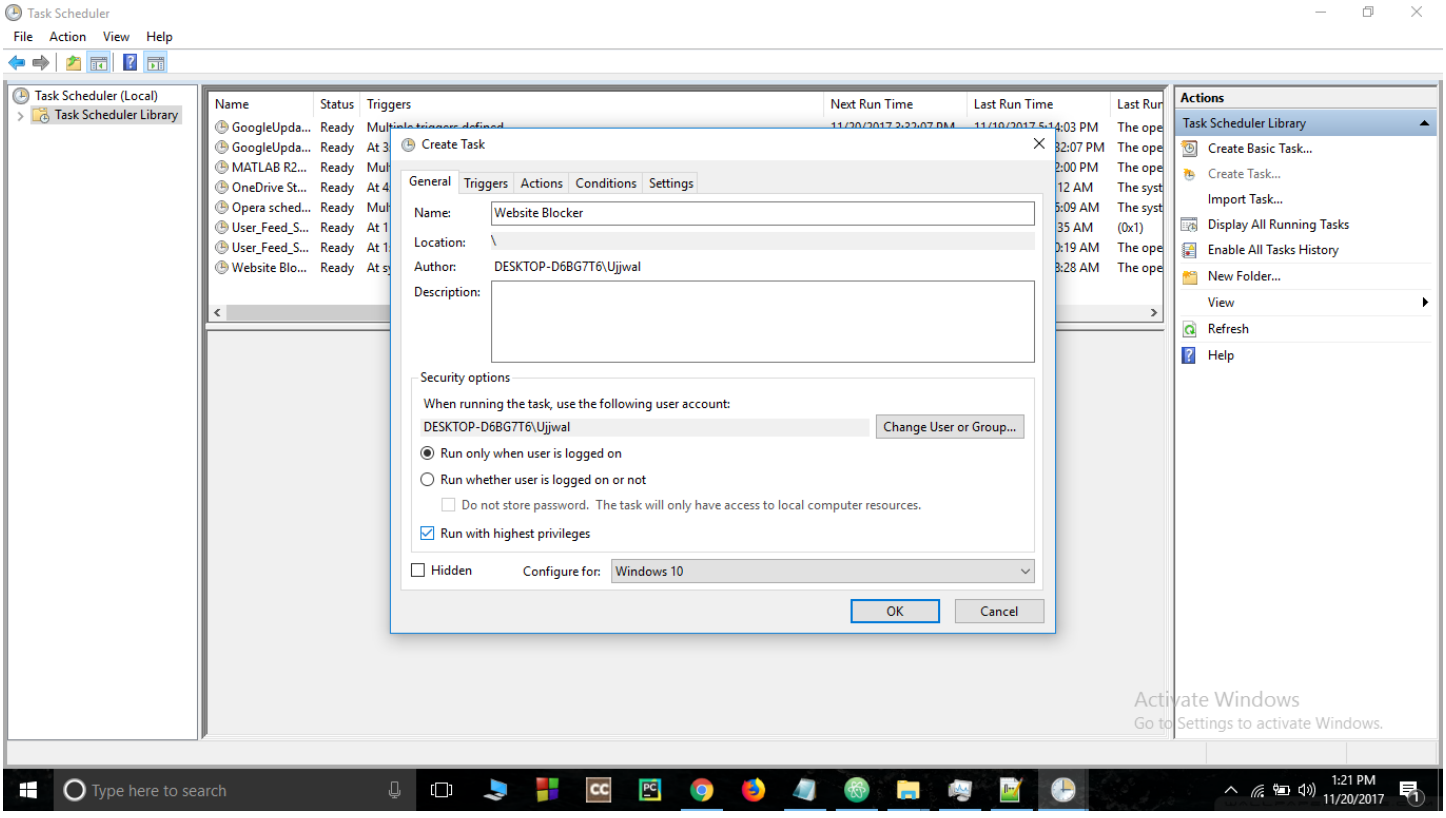
1. First of all change the extension of your script from ".py" to ".pyw".
2. Now open task scheduler. Task scheduler should look like this:

You may see website blocker already scheduled because I have already scheduled in my computer for my testing purpose. Follow further instruction of scheduling carefully in order to schedule website blocker in your computer

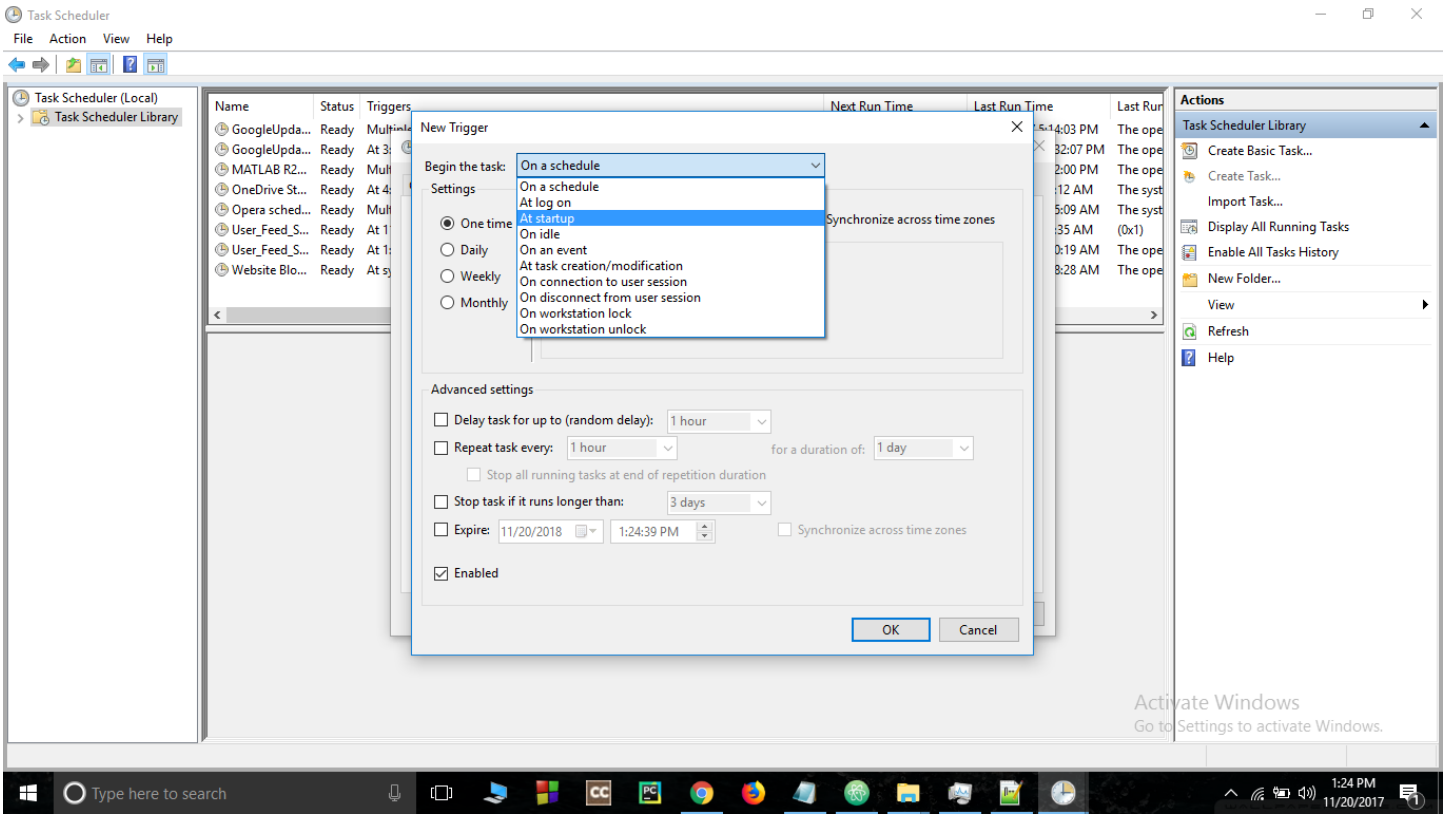


Click on “create task”. Fill the name of your choice and flag “Run with highest privilege”.

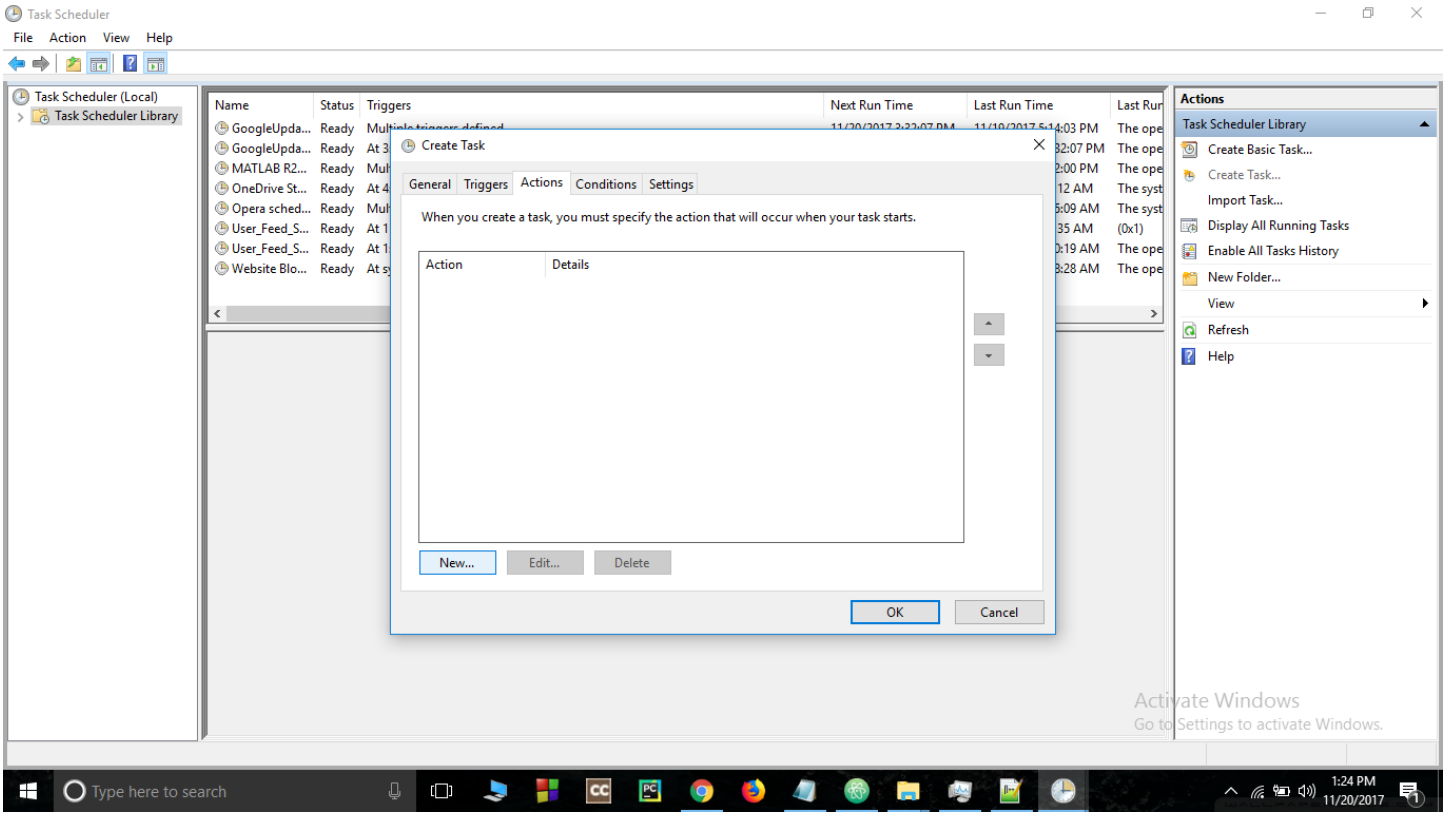




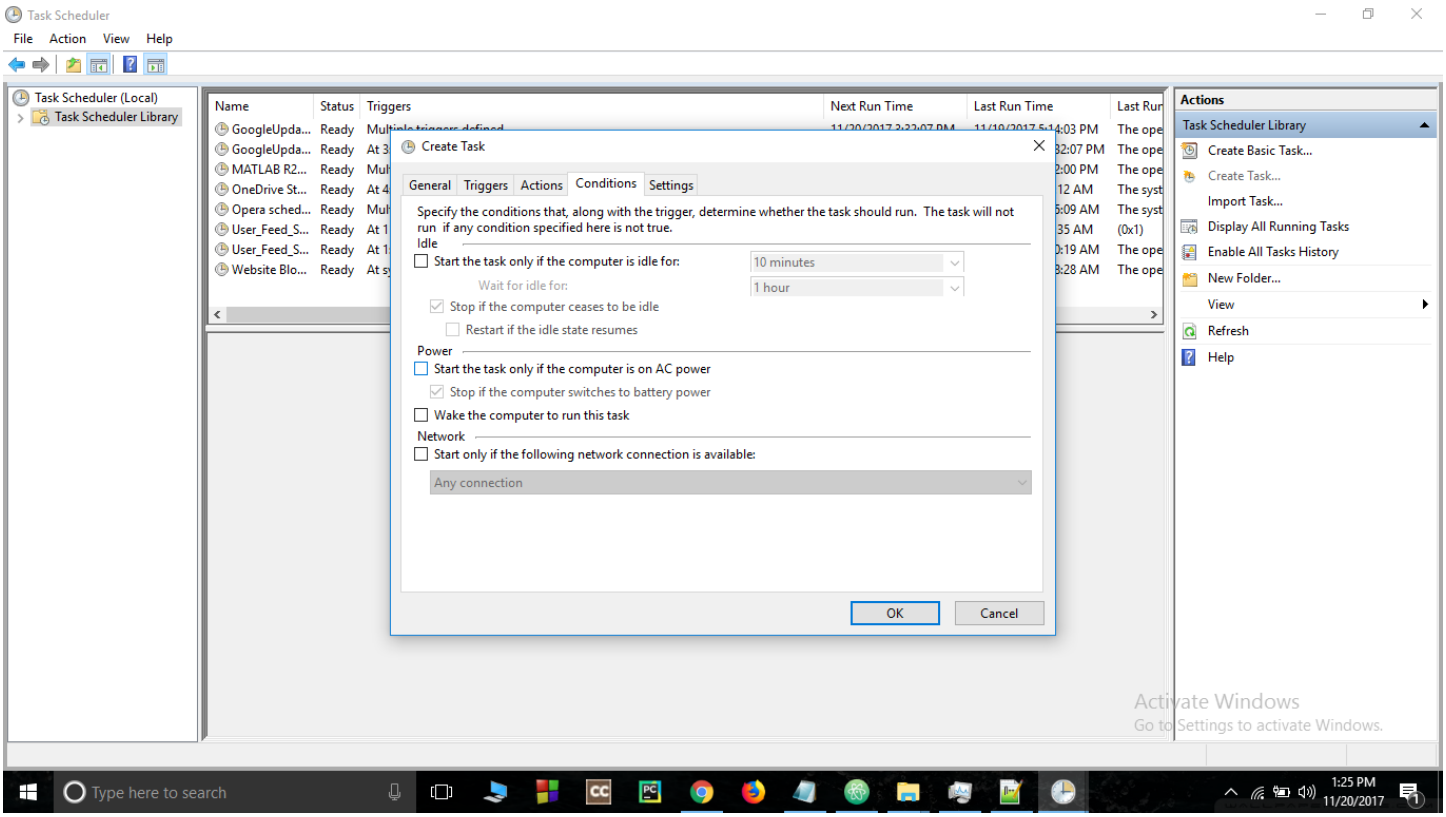
4.Now go to triggers, select “At startup” for begin the task.



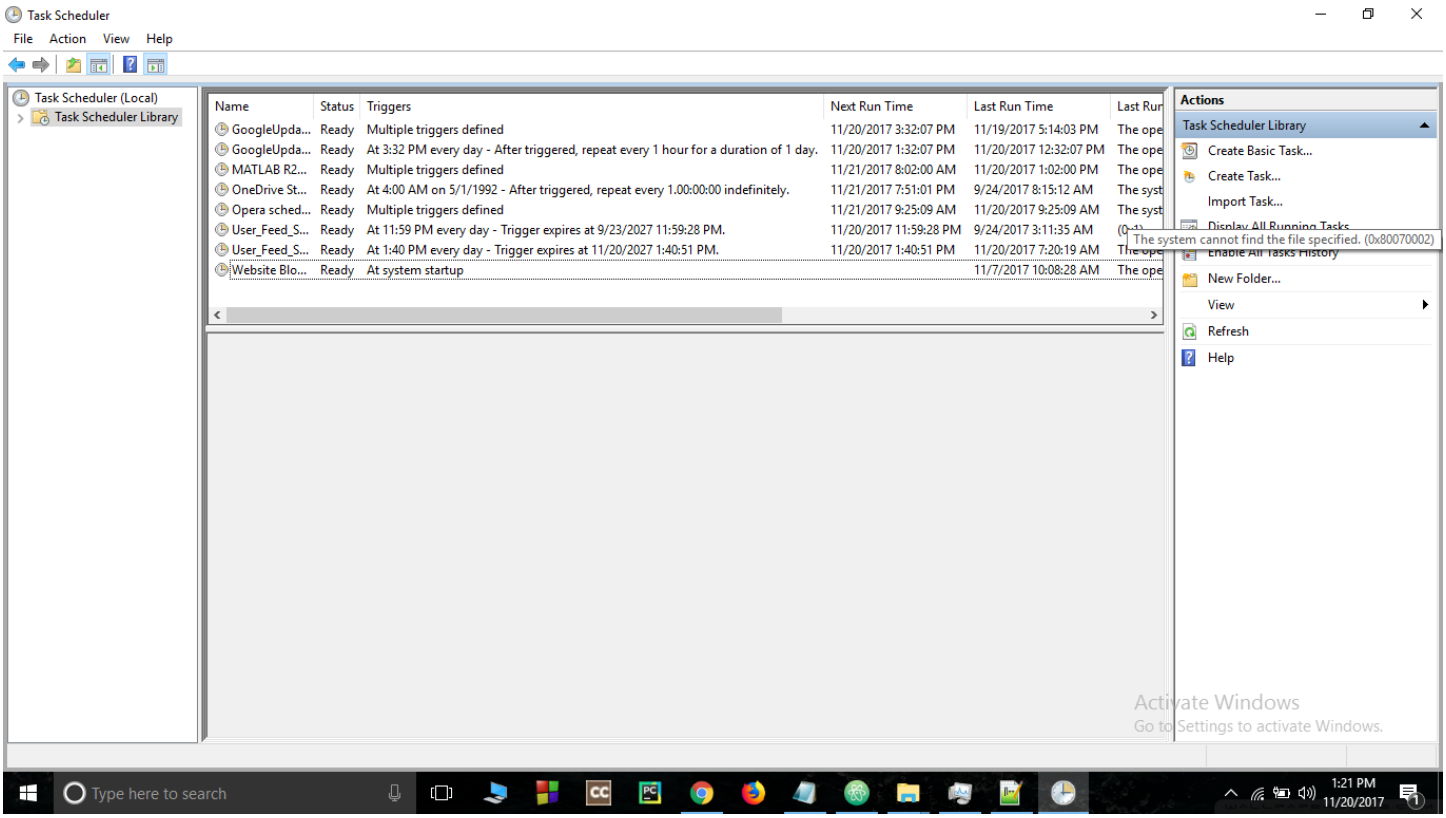
5 . Go to Action bar and create a new action and give path of your script.



6. Go to conditions bar and unflag the power section.



7.Press ok and you can see the script scheduled



Finally restart your computer and see the magic.