

SHUBHANG GUPTA



LNJN National Institute Of Criminology
And Forensic Science

NATIONAL FORENSIC SCIENCES UNIVERSITY



PYTHON AND SCRIPTING

SUBJECT CODE: CTMSDFIS S1 P4

SUBMITTED BY

SHUBHANG GUPTA

ROLL No. :

M.SC. DIGITAL FORENSICS AND INFORMATION SECURITY

LAB 09

17-11-2022

AIM: To study networking concepts in python.

SOFTWARE REQUIRED: Anaconda IDE

INTRODUCTION: Python is an interpreted, object-oriented, high-level programming language with dynamic semantics. Its high-level built-in data structures, combined with dynamic typing and dynamic binding, make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

1. Program 1

```
from datetime import datetime as dt
import socket

d = str(dt.now()).split('.')[0]
print(f"Lab 8 SHUBHANG GUPTA {d}")

# get your pc host name
host = socket.gethostname()
print('HOST:', host)

# get your ip
ip = socket.gethostbyname(host)
print(f'{host} ip: {ip}')

# get ip of google.com
ip_google = socket.gethostbyname('www.google.com')
print('GOOGLE.COM ip:', ip_google)
```

OUTPUT

```
PS E:\OneDrive - Atma Ram Sanatan Dharma College\NFSU DFIS BOOKS\Python And Scripting\Others\LAB 9> python .\prog1.py
Lab 8 SHUBHANG GUPTA 2022-11-18 23:44:22
HOST: JARVIS
JARVIS ip: 192.168.56.1
GOOGLE.COM ip: 142.250.192.164
```

2. Program 2

```
from datetime import datetime as dt
import socket

d = str(dt.now()).split('.')[0]
print(f"Lab 8 SHUBHANG GUPTA {d}")

# create socket and connect to server
s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

# ip plus port binding
port1 = 80
port2 = 443

host_ip = socket.gethostbyname('www.google.com')
print(host_ip)

s.connect((host_ip, port1))
print("The socket has successfully connected to google")

# byte number
# print(s.recv(65535).decode('utf-8'))
```

OUTPUT

```
PS E:\OneDrive - Atma Ram Sanatan Dharma College\NFSU DFIS BOOKS\Python And Scripting\Others\LAB 9> python .\prog2.py
Lab 8 SHUBHANG GUPTA 2022-11-18 23:45:20
142.250.192.164
The socket has successfully connected to google
```

3. Program 3

```
# Connect to google from client side
from datetime import datetime as dt
import socket
import sys

d = str(dt.now()).split('.')[0]
print(f"Lab 8 SHUBHANG GUPTA {d}")

try:
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    print("Socket successfully created!!!")
except socket.error as err:
    print("Socket creation failed with error %s" %(err))

# default port for socket server side
port = 80

try:
    host_ip = socket.gethostbyname('www.google.com')
    print("ip address of google:", host_ip)
except socket.gaierror:
    # this means could not resolve the host
    print("There was an error resolving the host")
    sys.exit()

# connecting to the server
s.connect((host_ip, port))
print("The socket has successfully connected to google!!!")
s.close()
```

OUTPUT

```
PS E:\OneDrive - Atma Ram Sanatan Dharma College\NFSU DFIS BOOKS\Python And Scripting\Others\LAB 9> python .\prog3.py
Lab 8 SHUBHANG GUPTA 2022-11-18 23:48:55
Socket successfully created!!!
ip address of google: 142.250.192.164
The socket has successfully connected to google!!!
```

4. Program 4

```
# server side code

import socket

s = socket.socket()
print("Socket successfully created!!!")

# port on client
port = 12345

#can request from another pc
s.bind(('', port))
print("Socket binded to %s" %(port))

s.listen(5)
print("Socket is listening...")

while True:
    c, addr = s.accept()
    print('Got connection from:', addr)
    c.send('Thank you for connecting!!!'.encode())
    c.close()
    break
```

OUTPUT

```
PS E:\OneDrive - Atma Ram Sanatan Dharma College\NFSU DFIS BOOKS\Python And Scripting\Others\LAB 9> python .\prog4_server.py
Socket successfully created!!!
Socket binded to 12345
Socket is listening...
█
```

```
PS E:\OneDrive - Atma Ram Sanatan Dharma College\NFSU DFIS BOOKS\Python And Scripting\Others\LAB 9> python .\prog4_server.py
Socket successfully created!!!
Socket binded to 12345
Socket is listening...
Got connection from: ('127.0.0.1', 52598)
█
```

5. Program 5

```
# client side code

import socket

s = socket.socket()
rhost = '127.0.0.1'
rport = 12345
s.connect((rhost, rport))
print(s.recv(1024).decode())

# close the connection
s.close()
```

OUTPUT

```
PS E:\OneDrive - Atma Ram Sanatan Dharma College\WFSU DFIS BOOKS\Python And Scripting\Others\LAB 9> python .\prog5_client.py
Thank you for connecting!!!
```

THE END