F.Y B.Sc C.S

SEM II

GUI Applications with Python

UNIT III

Networking in Python:

- Python has .py file extension.
- Port is an entry point to a system on network.
- What are Sockets?

  A **socket** is one endpoint of a two-way communication link between two programs running on the network.

- What is Socket Programming?

  Socket programming is a way of connecting two nodes on a network to communicate with each other.

  Socket programming is started by importing the socket library as follows - import socket.

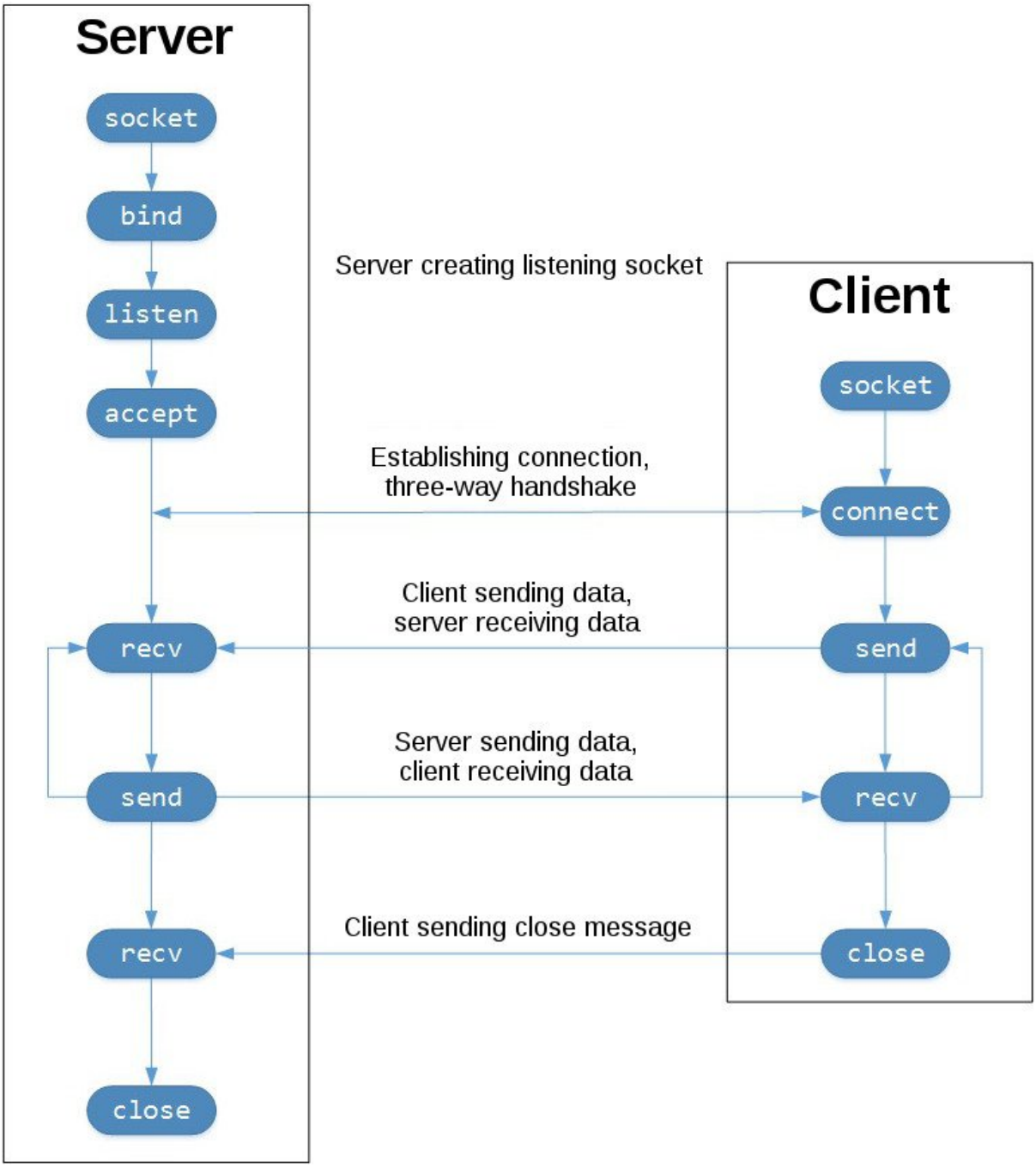
- Server :

  A server has a bind() method which binds it to a specific IP and port so that it can listen to incoming requests on that IP and port.

  A server has a method listen() which puts the server into listen mode.

  To send a message to the client send() method is used.

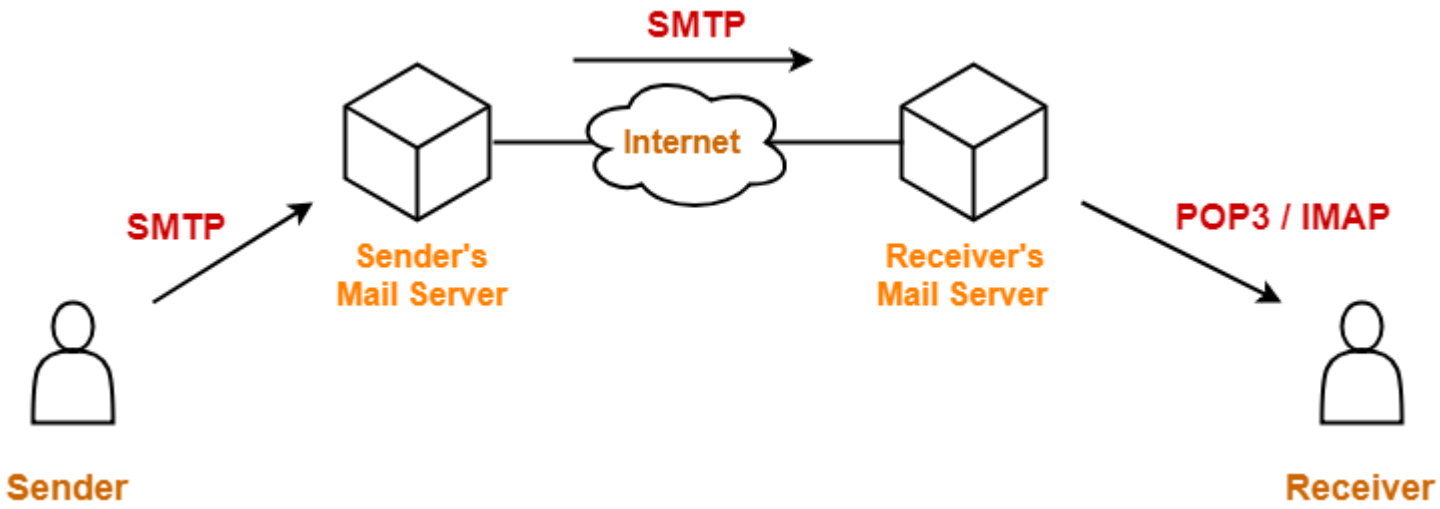
  To establish a connection with client accept() method is used.



Reading/Write emails in Python:

- Python's built-in **smtplib** library is used to send basic emails
- Python uses Simple Mail Transfer Protocol protocol to send emails.
- Full form of SMTP is **Simple Mail Transfer Protocol.**
- SMTP connection can be encrypted using **starttls**().
- Gmail requires that you connect to port **465** if using **SMTP_SSL()**.//SSL - Secured Socket Layer
- Gmail requires that you connect to port **587** if using **starttls()**. //TLS - Transport Layer Security

SMTP:



Database Connection in Python:

MySQLdb is an interface for connecting to a MySQL database server from Python.

Before connecting to a MySQL database, make sure you have created a Database.

To create a connection between the MySQL database and the python application, the connect() method of mysql.connector module is used.

The cursor object facilitates us to have multiple separate working environments through the same connection to the database.

The syntax to create the cursor object is <my_cur> = conn.cursor().

We can create the cursor object by calling the cursor() function of the connection object.

To execute a query, we use the execute() method.

Syntax of Execute method is : execute(query, params = none)

fetchone() returns the next row from the result set as tuple.

If there are no more rows from fetchone() to retrieve, None is returned.

fetchmany([size]) returns the specified number of rows from the result set.

If there are no more rows to retrieve from fetchmany([size]),[] is returned.

The default size of fetchmany([size]) is 1.

fetchall() returns the all (or remaining) rows from the result set.

Another function to execute a query is the executemany() function.

To execute multiple queries, multi=true parameter is used in the execute().

By default the multi parameter in execute is set to FALSE.