This tutorial shows you how to manipulate different kinds of file.

How to read a Text File

Let's kick off by opening a text file "file.txt" with the built in function "open". In the following example with default setting, this file is opened in read-only model.

```
# the open keyword opens a file in read-only mode by default
f = open("/home/jeffery/file.txt")

# read all the lines in the file and return them in a list
lines = f.readlines()

f.close()
```

You can also use an extra parameter to be explicit.

```
f = open("/home/jeffery/file.txt", mode='r')
```

The "r" means to just read the file. You can also open a file in **"rb" (read binary), "w" (write), "a" (append)**, or "wb" (write binary). Note that if you use either "w" or "wb", Python will overwrite the file, if it exists already or create it if the file doesn't exist.

If you want to read the file, you can use the following methods:

- **read** - reads the whole file and returns the whole thing in a string
- **readline** - reads the first line of the file and returns it as a string
- **readlines** – reads the entire file and returns it as a list of strings

You can also read a file with a loop, like this:

```
f = open("/home/jeffery/file.txt", mode='r')
for line in f:
    print line
f.close()
```

How to write a Text File

In this case, you first have to change the mode to "w" or "a" when you open the file.

```
# the open keyword opens a file in write mode by default
f = open("/home/jeffery/wfile.txt", mode="w")

# Write string str to file.
str = "the content you want to write"
f.write(str)

f.close()
```

Communication between 2 machines

The server listens for incoming messages:

server.py

```
import socket # Import socket module
s = socket.socket() # Create a socket object
host = socket.gethostname() # Get local machine name
port = 1345 # Reserve a port for your service.
s.bind((host, port)) # Bind to the port
f = open('text1.txt','wb')
s.listen(5) # Now wait for client connection.
while True:
        c, addr = s.accept() # Establish connection with client.
        print 'Got connection from', addr
        print "Receiving..."
        l = c.recv(1024)
        while (l):
                print "Receiving..."
                f.write(l)
                l = c.recv(1024)
        f.close()
print "Done Receiving"
c.send('Thank you for connecting')
c.close() # Close the connection
```

The client sends a message to the server:

client.py

```
import socket # Import socket module
s = socket.socket() # Create a socket object
host = socket.gethostname() # Get local machine name
port = 1345 # Reserve a port for your service.
s.connect((host, port))
f = open('text.txt','rb')
print ('Sending...')
l = f.read(1024)
while (l):
        print ('Sending...')
        s.send(l)
        l = f.read(1024)
f.close()
print ("Done Sending")
s.shutdown(socket.SHUT_WR)
print (s.recv(1024))
s.close
```