

LAB 13 : SOCKET AND APIs

Write a simple application using sockets that returns the processor load on your machine.

At the Client's end :

The screenshot displays a web browser window on the left and a terminal window on the right. The browser shows the Moodle page for 'EECS 745 Implementation of Networks', specifically the 'Lesson: Sockets and APIs' section. The terminal window shows the user navigating to a directory named 'socket_python' and running a client program. The client program prompts the user to choose an option from a menu (1. Print processor load, 2. Exit) and then displays the received processor load values (0.83, 0.34, 0.24).

EECS 745 Implementation of Networks

Lesson: Sockets and APIs

| Overview & Theory | Examples |
|--|--|
| <ul style="list-style-type: none">Overview<ul style="list-style-type: none">Lesson ObjectivesTheory<ul style="list-style-type: none">Presentation (PDF)Readings<ul style="list-style-type: none">Peterson & Davie, Sec. 14 | <ul style="list-style-type: none">Web Literature<ul style="list-style-type: none">Socket Programming in Python |

| Applications | Standards | Individual Activities |
|---|--|---|
| <ul style="list-style-type: none">N/A | <ul style="list-style-type: none">Web Literature<ul style="list-style-type: none">W3C SOAP StandardIETF Literature<ul style="list-style-type: none">RFC 2292 - Sockets for IPv6 | <ul style="list-style-type: none">Other Web Literature<ul style="list-style-type: none">Socket Programming in CUnix Socket FAQ |

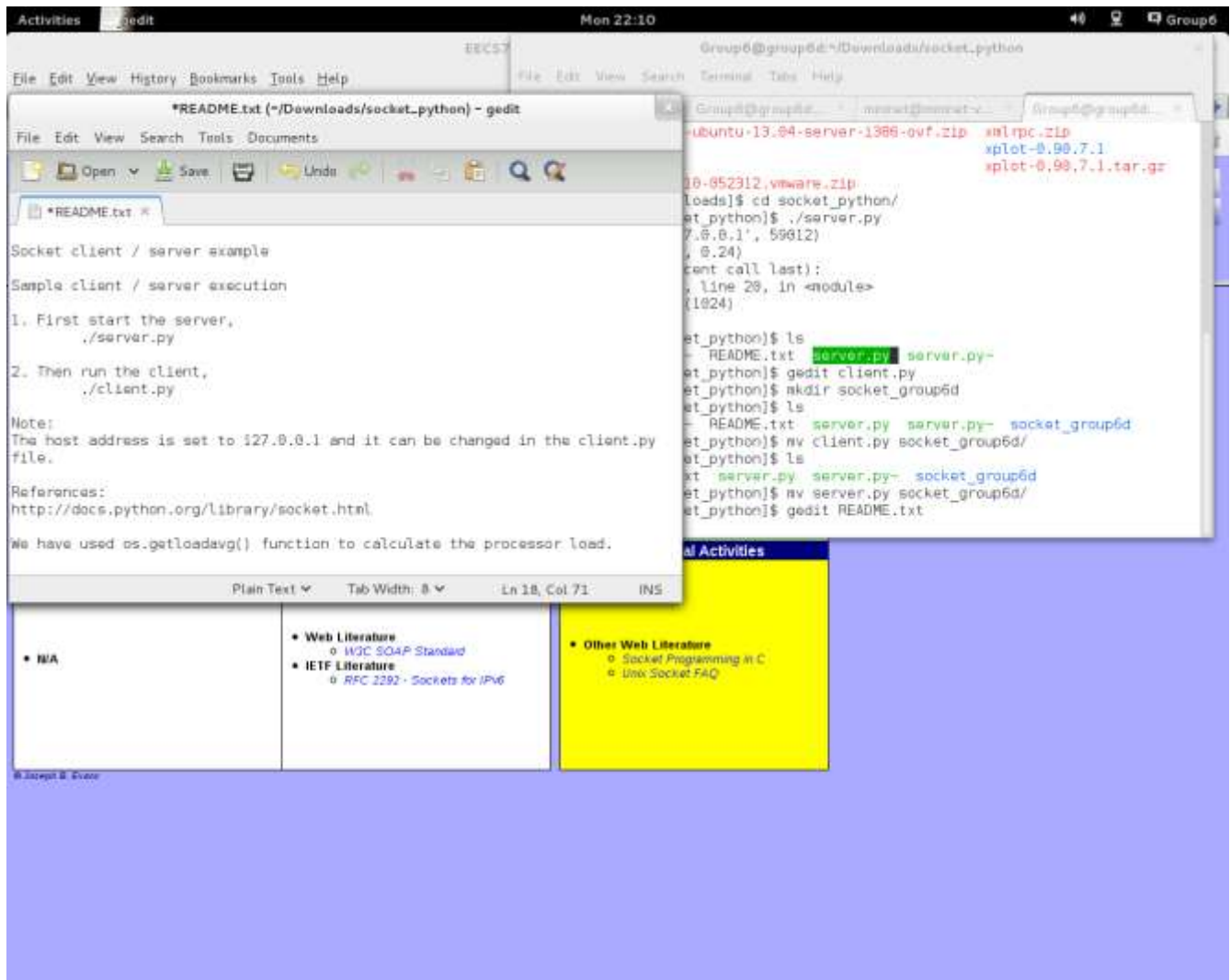
```
socket_python
socket_python(1).zip
socket_python.zip
vlan_example(1).py
vlan_example.py
xmlrpc.zip
xplot-0.90.7.1
xplot-0.90.7.1.tar.gz
[Group6@group6d Downloads]$ cd socket_python/
[Group6@group6d socket_python]$ ls
client.py  README.txt  server.py
[Group6@group6d socket_python]$ gedit README.txt
[Group6@group6d socket_python]$ gedit client.py
^C
[Group6@group6d socket_python]$ gedit server.py
[Group6@group6d socket_python]$ gedit server.py
^C
[Group6@group6d socket_python]$ ./client.py
Choose an option from the menu:
1. Print processor load
2. Exit
Choose a number: 1
Received {0.83, 0.34, 0.24}
Choose a number: 
```

At the Server's end :

The screenshot displays a desktop environment with three main windows:

- Web Browser:** Shows the EECS 745 Implementation of Networks page, specifically the 'Lesson: Sockets and APIs' section. The page includes a table with four columns: Overview & Theory, Examples, Applications, and Standards. The 'Examples' column lists various files and links, including 'LabExercise', 'Assignment12.xlsx', 'Commands.odt', 'firefox-26.0.tar.bz2', 'install54.iso', 'ipsec_h1.conf', 'ipsec_h2.conf', 'ipsec.py', 'manual.tar.gz', 'mininet@192.168.106.101', 'mininet-2.1.0-138919-ubuntu-13.04-server-1386-ovf.zip', 'Mininet-VM', 'Mininet-VM-2.1', 'mininet-vm-ubuntu11.10-052312.vmxware.zip', and 'socket_python/'. The 'Applications' column is empty. The 'Standards' column lists 'Web Literature' (W3C SOAP Standard, IETF Literature, RFC 2292 - Sockets for IPv6) and 'Other Web Literature' (Socket Programming in C, Unix Socket FAQ).
- Terminal:** Shows the command prompt for 'Group6@group6d:~/Downloads/socket_python'. The terminal output displays the contents of the 'Downloads/socket_python' directory, listing files such as 'multi', 'multi4.tgz', 'putty-0.60.tar.gz', 'sock_test.py', 'schedule.txt', 'soap_python.zip', 'socket_python', 'socket_python(1).zip', 'socket_python.zip', 'sockets-group_josh.tar', 'vlan_example(1).py', 'vlan_example.py', 'xmlrpc.zip', 'xplot-0.90.7.1', and 'xplot-0.90.7.1.tar.gz'.
- File Manager:** Shows the 'Downloads/socket_python' directory, listing the same files as the terminal window.

Created a Zip file with name as socket_group6d.zip and it can be seen from the screen shot below here. Also the zip file can be found in the attachments with the README text file.



Activities Terminal Mon 22:15 Group6

File Edit View History Bookmarks Tools Help

www.cyberciti.biz/faq/linux-how-to-zipping-and-unzipping-files-under-
form, type

1/2): updates/19/x86_64/updateinfo
2/2): updates/19/x86_64/pkgtags
Package zip-3.0-7.fc19.x86_64 already installed and latest version
Nothing to do
[root@group6d socket_python]# su group6d
su: user group6d does not exist
[root@group6d socket_python]# su Group6
[Group6@group6d socket_python]\$ zip -r socket_group6d/
zip error: Nothing to do! (socket_group6d/.Zip)
[Group6@group6d socket_python]\$ zip -r socket_group6d*
zip error: Nothing to do! (socket_group6d.zip)
[Group6@group6d socket_python]\$ zip -r socket_group6d *
adding: client.py~ (deflated 36%)
adding: README.txt~ (deflated 37%)
adding: server.py~ (deflated 39%)
adding: socket_group6d/ (stored 0%)
adding: socket_group6d/README.txt (deflated 38%)
adding: socket_group6d/server.py (deflated 39%)
adding: socket_group6d/client.py (deflated 36%)
[Group6@group6d socket_python]\$ ls
client.py~ README.txt~ server.py~ socket_group6d socket_group6d.zip
[Group6@group6d socket_python]\$

To zip up an entire directory (including all subdirectories),
\$ zip -r data *

unzipping files/directories examples

To use unzip to extract all files of the archive pics.zip into
\$ unzip -p pics.zip

You can also test pics.zip, printing only a summary message indicating whether the archive is OK or not:
\$ unzip -t -q pics.zip

To extract the file called cv.doc from pics.zip:
\$ unzip -p pics.zip cv.doc

To extract all files into the /tmp directory:
\$ unzip pics.zip -d /tmp

To list all files from pics.zip:
\$ unzip -l pics.zip

Download of the day: e tool to extract rpm, rar, zip and other formats under Linux
Security Alert: Update Firefox 3.x and 2.x Versions
Linux: Finding and Locating files with the command part # 1
Red Hat Enterprise Linux Security: An Updated autofs Package Available
Linux / UNIX: Finding and locating files with the command part # 2
Download of the day: atool for Managing File Archives of Various