

## CN 3530: Assignment 1 - Basic Topology

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### I. Client and Server for GET/PUT/DELETE Requests:

After coding for the client.py and server.py, to test them, 6 PUT Requests were done for the following data:

Key	Val
Key1	Val1
Key2	Val2
Key3	Val3
Key4	Val4
Key5	Val5
Key6	Val6

Then, GET for Key3 was done

Then, DELETE for Key1 was done

```
Node: h1
1.GET, 2.PUT, 3.DELETE, 4.EXIT
2
Enter key (space) value
Key1 Val1
HTTP/1.1 201 Created
Inserted Key1.Val1 into the dict

1.GET, 2.PUT, 3.DELETE, 4.EXIT
2
Enter key (space) value
Key2 Val2
HTTP/1.1 201 Created
Inserted Key2.Val2 into the dict

1.GET, 2.PUT, 3.DELETE, 4.EXIT
2
Enter key (space) value
Key3 Val3
HTTP/1.1 201 Created
Inserted Key3.Val3 into the dict

1.GET, 2.PUT, 3.DELETE, 4.EXIT
2
Enter key (space) value
Key4 Val4
HTTP/1.1 201 Created
Inserted Key4.Val4 into the dict

1.GET, 2.PUT, 3.DELETE, 4.EXIT
2
Enter key (space) value
Key5 Val5
HTTP/1.1 201 Created
Inserted Key5.Val5 into the dict

1.GET, 2.PUT, 3.DELETE, 4.EXIT
2
Enter key (space) value
Key6 Val6
HTTP/1.1 201 Created
Inserted Key6.Val6 into the dict

1.GET, 2.PUT, 3.DELETE, 4.EXIT
1
Enter key to GET
Key3
HTTP/1.1 200 OK
Val3

1.GET, 2.PUT, 3.DELETE, 4.EXIT
3
Enter key to DELETE
Key1
HTTP/1.1 200 OK
Deleted key: Key1

1.GET, 2.PUT, 3.DELETE, 4.EXIT
```

- Also, pcap traces for one PUT, GET and DELETE requests are obtained using wireshark on h1. (The files are submitted)
- From H1, GET all 6 keys 3 times each and the times were noted down from wireshark by seeing the time since request field

Key	First time (sec)	Second Time (sec)	Third Time (sec)	Average (sec)	Average in ms
Key1	0.01035651	0.00317175	0.001556863	0.005028374333	5.028374333
Key2	0.001680071	0.002048488	0.001814802	0.001847787	1.847787
Key3	0.002008549	0.002450824	0.002159808	0.002206393667	2.206393667
Key4	0.003378395	0.002630041	0.002903734	0.002970723333	2.970723333
Key5	0.006891664	0.001779833	0.002832796	0.003834764333	3.834764333
Key6	0.001142863	0.000941542	0.001216697	0.001100367333	1.100367333

(Note: Socket connection establishment times are not taken into account in the above data, since wireshark measures the time since request for the response to arrive and the request is sent only after the socket connection is established.)

**(Report for star is in the star folder)**

### **ACKNOWLEDGEMENTS:**

1. **Mozilla MDN Docs:** <https://developer.mozilla.org/en-US/docs/Web/HTTP/Messages> to see the format of GET, PUT, DELETE Requests and the response codes.
2. **Python docs on socket programming:** <https://docs.python.org/3/howto/sockets.html>
3. **Computer Networking : A top down approach by Kurose Ross**
4. **The boiler plate code present for the assignment already**

### **PLAGIARISM STATEMENT**

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