

**Cloud Computing**  
**UE19CS352**  
**6th Semester, Academic Year 2021-22**

Assignment #: 4 - ZooKeeper

Date: 4/4/2022

Name : SUMUKH RAJU BHAT	SRN : PES1UG19CS519	Section : H
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1.jpg:

```
sumukhbhat2701@pop-os:apache-zookeeper-3.8.0-bin$ bin/zkServer.sh start
/usr/bin/java
ZooKeeper JMX enabled by default
Using config: /opt/apache-zookeeper-3.8.0-bin/bin/../conf/zoo.cfg
Starting zookeeper ... STARTED
```

2a.jpg:

```
[zk: localhost:2181(CONNECTED) 2] ls /
[pes1ug19cs519_eph, pes1ug19cs519_seq0000000002, zookeeper]
[zk: localhost:2181(CONNECTED) 3]
```

2b.jpg:

```
[zk: localhost:2181(CONNECTED) 0] ls /
[pes1ug19cs519_seq0000000002, zookeeper]
[zk: localhost:2181(CONNECTED) 1]
```

2c.png:

```
[zk: localhost:2181(CONNECTED) 6] get -s /pes1ug19cs519_seq0000000002
/data
cZxid = 0x16
ctime = Mon Apr 04 14:30:42 IST 2022
mZxid = 0x1b
mtime = Mon Apr 04 14:35:57 IST 2022
pZxid = 0x16
cversion = 0
dataVersion = 1
aclVersion = 0
ephemeralOwner = 0x0
dataLength = 5
numChildren = 0
[zk: localhost:2181(CONNECTED) 7]
```

2d.png:

```
[zk: localhost:2181(CONNECTED) 24] ls /pes1ug19cs519_seq0000000002  
[bhat, sumukh]  
[zk: localhost:2181(CONNECTED) 25] █
```

3a.png

Client 1:

```
[zk: localhost:2181(CONNECTED) 8] ls /pes1ug19cs519  
[candidate00000000003, candidate00000000004, candidate00000000005]  
[zk: localhost:2181(CONNECTED) 9] █
```

Client 2:

```
[zk: localhost:2181(CONNECTED) 9] ls /pes1ug19cs519  
[candidate00000000003, candidate00000000004, candidate00000000005]  
[zk: localhost:2181(CONNECTED) 10] █
```

Client 3:

```
[zk: localhost:2181(CONNECTED) 1] ls /pes1ug19cs519  
[candidate00000000003, candidate00000000004, candidate00000000005]  
[zk: localhost:2181(CONNECTED) 2] █
```

3b.png:

Server:

```
org.apache.zookeeper.server.ServerCnxn$EndOfStreamException: Unable to read additional data from client, it probably closed the socket: address = /[0:0:0:0:0:0:0:1]:58862, session = 0x1000066dc540003
    at org.apache.zookeeper.server.NIOServerCnxn.handleFailedRead(NIOServerCnxn.java:170)
    at org.apache.zookeeper.server.NIOServerCnxn.doIO(NIOServerCnxn.java:333)
    at org.apache.zookeeper.server.NIOServerCnxnFactory$IOWorkRequest.doWork(NIOServerCnxnFactory.java:508)
    at org.apache.zookeeper.server.WorkerService$ScheduledWorkRequest.run(WorkerService.java:153)
    at java.base/java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1136)
    at java.base/java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:635)
    at java.base/java.lang.Thread.run(Thread.java:833)
```

Client 2: (where the node was “quit”)

```
[zk: localhost:2181(CONNECTED) 10] get -s -w /pes1ug19cs519/candidate00000000003
null
cZxid = 0x3b
ctime = Mon Apr 04 14:51:18 IST 2022
mZxid = 0x3b
mtime = Mon Apr 04 14:51:18 IST 2022
pZxid = 0x3b
cversion = 0
dataVersion = 0
aclVersion = 0
ephemeralOwner = 0x100003dca240000
dataLength = 0
numChildren = 0
[zk: localhost:2181(CONNECTED) 11] quit

WATCHER::

WatchedEvent state:Closed type:None path:null
2022-04-04 14:57:50,455 [myid:] - INFO [main:o.a.z.ZooKeeper@1232] - Session: 0x100003dca240001 closed
2022-04-04 14:57:50,456 [myid:] - INFO [main-EventThread:o.a.z.ClientCnxn$EventThread@568] - EventThread shut down for session: 0x100003dca240001
2022-04-04 14:57:50,466 [myid:] - ERROR [main:o.a.z.u.ServiceUtils@42] - Exiting JVM with code 0
sunmkbhat2701@np-ns:apache-zookeeper-3.8.0-bin$
```

Client 3: (the node upon which watch was kept by client 2)

```
[zk: localhost:2181(CONNECTED) 3] get -s -w /pes1ug19cs519/candidate00000000004
null
cZxid = 0x3c
ctime = Mon Apr 04 14:51:47 IST 2022
mZxid = 0x3c
mtime = Mon Apr 04 14:51:47 IST 2022
pZxid = 0x3c
cversion = 0
dataVersion = 0
aclVersion = 0
ephemeralOwner = 0x100003dca240001
dataLength = 0
numChildren = 0
[zk: localhost:2181(CONNECTED) 4]
```

```
[zk: localhost:2181(CONNECTED) 4]
[zk: localhost:2181(CONNECTED) 4]
WATCHER::

WatchedEvent state:SyncConnected type:NodeDeleted path:/pes1ug19cs
```