CC assignment – 4
Zookeeper

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Section : I

1a.jpg : Screenshot of Zookeeper Server having started

```
trisha@trisha-VirtualBox:/opt/apache-zookeeper-3.8.0-bin$ bin/zkServer.sh start
ZooKeeper JMX enabled by default
Using config: /opt/apache-zookeeper-3.8.0-bin/bin/../conf/zoo.cfg
Starting zookeeper ... STARTED
```

2a.jpg : Screenshot of Listing of the created ZNodes

```
WatchedEvent state:SyncConnected type:None path:null
[zk: localhost:2181(CONNECTED) 0] create -s /PES1UG19CS542 "a sequential node"
Created /PES1UG19CS5420000000000
[zk: localhost:2181(CONNECTED) 1] create -e /PES1UG19CS542 "an ephemeral node"
Created /PES1UG19CS542
[zk: localhost:2181(CONNECTED) 2] ls /
[PES1UG19CS542, PES1UG19CS5420000000000, zookeeper]
[zk: localhost:2181(CONNECTED) 3] 
```

2b.jpg : Screenshot of Listing of the deleted ephemeral node

```
WatchedEvent state:SyncConnected type:None path:null
[zk: localhost:2181(CONNECTED) 0] ls /
[PES1UG19CS5420000000000, zookeeper]
[zk: localhost:2181(CONNECTED) 1] 
```

2c.jpg : Screenshot of Data and Metadata associated with the created sequential znode

```
[zk: localhost:2181(CONNECTED) 1] get -s /PES1UG19CS5420000000000
a sequential node
cZxid = 0x4
ctime = Wed Apr 13 18:14:33 IST 2022
mZxid = 0x4
mtime = Wed Apr 13 18:14:33 IST 2022
pZxid = 0x4
cversion = 0
dataVersion = 0
aclVersion = 0
ephemeralOwner = 0x0
dataLength = 17
numChildren = 0
[zk: localhost:2181(CONNECTED) 2] 
```

2d.jpg : Screenshot of Listing of all the children nodes

```
[zk: localhost:2181(CONNECTED) 2] create /PES1UG19CS542
Created /PES1UG19CS542
[zk: localhost:2181(CONNECTED) 3] create /PES1UG19CS542/Trisha "child node"
Created /PES1UG19CS542/Trisha
[zk: localhost:2181(CONNECTED) 4] create /PES1UG19CS542/Jain "child node"
Created /PES1UG19CS542/Jain
[zk: localhost:2181(CONNECTED) 5] ls /
[PES1UG19CS542, PES1UG19CS5420000000000, zookeeper]
[zk: localhost:2181(CONNECTED) 6] ls /PES1UG19CS542
[Jain, Trisha]
[zk: localhost:2181(CONNECTED) 7]
```

3a.jpg : Screenshot of each of the clients listing all the znodes
(Client 1)

```
[zk: localhost:2181(CONNECTED) 2] create /PES1UG19CS542
Created /PES1UG19CS542
[zk: localhost:2181(CONNECTED) 3] create -s /PES1UG19CS542/candidate
Created /PES1UG19CS542/candidate0000000000
[zk: localhost:2181(CONNECTED) 4] ls /PES1UG19CS542
[candidate0000000000, candidate0000000001, candidate0000000002]
[zk: localhost:2181(CONNECTED) 5]
```

(Client 2)

```
[zk: localhost:2181(CONNECTED) 7] create -s /PES1UG19CS542/candidate
Created /PES1UG19CS542/candidate0000000001
[zk: localhost:2181(CONNECTED) 8] ls /PES1UG19CS542
[candidate0000000000, candidate0000000001, candidate0000000002]
[zk: localhost:2181(CONNECTED) 9]
```

(Client 3)

```
[zk: localhost:2181(CONNECTED) 0] create -s /PES1UG19CS542/candidate
Created /PES1UG19CS542/candidate0000000002
[zk: localhost:2181(CONNECTED) 1] ls \
Path must start with / character
[zk: localhost:2181(CONNECTED) 2] ls /PES1UG19CS542
[candidate0000000000, candidate0000000001, candidate0000000002]
[zk: localhost:2181(CONNECTED) 3]
```

3b.jpg : Screenshot of the Watched Event and the Zookeeper Server logs
(Watched Event)

```
mtime = Wed Apr 13 21:13:57 IST 2022
pZxid = 0x3d
cversion = 0
dataVersion = 0
aclVersion = 0
ephemeralOwner = 0x0
dataLength = 0
numChildren = 0
[zk: localhost:2181(CONNECTED) 3]
WATCHER::

WatchedEvent state:SyncConnected type:NodeDeleted path:/PES1UG19CS542/candidate0
000000001
```

(Zookeeper Client quit)

```
WATCHER::

WatchedEvent state:Closed type:None path:null
2022-04-13 21:21:00,223 [myid:] - INFO  [main:o.a.z.ZooKeeper@1232] - Session: 0
x100002271040001 closed
2022-04-13 21:21:00,223 [myid:] - INFO  [main-EventThread:o.a.z.ClientCnxn$Event
Thread@568] - EventThread shut down for session: 0x100002271040001
2022-04-13 21:21:00,226 [myid:] - ERROR [main:o.a.z.u.ServiceUtils@42] - Exiting
 JVM with code 0
```