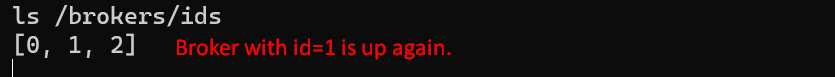
1. Graphical user interface, application

   Description automatically generated
2. Kafka Broker is a **Masterless Cluster**.
3. It doesn’t follow Master-Slave Architecture.
4. Diagram, schematic

   Description automatically generated
5. However, it uses Apache Zookeeper to maintain the list of active Brokers.
6. Diagram, schematic

   Description automatically generated
7. 
8. Every Kafka Broker has a unique ID that we define in the Broker Configuration file like 🡪 server.properties.
9. We also configure the coordinate of the Zookeeper in the Kafka Broker Configuration file like  
   
10. When the broker starts, it connects to the Zookeeper and creates ephemeral node using broker id to represent an active Broker session.  
    **Ephemeral node in zookeeper are temporary kind of znodes. These znodes exists for a specific session only. They gets created for a session and as soon as session ends they also get deleted.**
11. The ephemeral node remains intact as soon as the Broker Session with the Zookeeper is active.
12. When the Broker loses connectivity with the Zookeeper due to any reason, the Zookeeper will automatically remove the ephemeral node.
13. So, the list of active Brokers in the Cluster is maintained as the list of ephemeral nodes under the brokers/ids path in the zookeeper.  
    Scatter chart

    Description automatically generated with medium confidence  
    Text

    Description automatically generated
14. Let’s stop broker with id=1.
15. 
16. 
17. So, this is way how Kafka Cluster maintains the list of active brokers which is maintained by zookeeper under the path brokers/ids.