1. Graphical user interface, text

   Description automatically generated
2. 
3. **Agenda**:
   1. Timestamp.
4. 
5. The ProducerRecord takes optional field Timestamp.  
   Graphical user interface, diagram

   Description automatically generated
6. Even though it is optional but for a real time streaming app, it is the most critical value.
7. That is why Kafka every msg is automatically timestamped if you don’t even explicitly specify it.
8. **Kafka allows you to implement one of** these two types of msg timestamping mechanisms.
   1. Create Time: When msg is created.
   2. Log Append Time: When msg is received at kafka Server side.

**NOTE**: We can’t use both. While creating the topic, our app should decide b/w the two timestamping methods while creating the topic.

1. **Create Time**:
   1. When the msg was produced.
   2. Waterfall chart

      Description automatically generated
   3. Setting up a default timestamping method for a topic 🡺 set **message.timestamp.type = 0** for using Create Time and **1 for Log Append Time**.  
      Zero is default value.
   4. The Producer API will **automatically set** the current Producer time to the **ProducerRecord.timestamp field**.
   5. However, we can override the auto timestamping by explicitly setting the ProducerRecord.timestamp.  
      So, the msg is transmitted with the producer time either automatically set by the producer or explicitly set by a developer.
   6. I prefer using the default configuration as create Time whenever I am using Producer API to bring the msgs to the Kafka Broker because the producer API automatically assigns a timestamp.  
      However, when I am using some other tools to bring data to Kafka Broker, I need to understand how the tool handles the timestamping.  
      A safer method is to configure the topic for Log Append Time. So even if the tool is not setting a time, at least the Broker will set the timestamp.
2. **Log Append Time**:
   1. Graphical user interface

      Description automatically generated with medium confidence
   2. set message.timestamp.type = 1 to use this type of timestamp.  
      But default value is zero.
   3. When using Log Append Time configuration, the Broker will override the producer timestamp with its current local time before appending the message to the log.
   4. However, the msg has always a timestamp either a producer time or a Broker Time.