1st round : It was machine coding round, I was asked to implement a simple pubsub messaging system which supports following functionalities :

a) Create Topic

b) Publishing Topic

c) Registering Subscribers

d) Subscribers Consuming Topic

e) Deleting Stale Topics

First the interviewer asked my approach I explained him the concurrent messaging model, he was happy about the design and asked to implement it in 90mins. Didn't had much experience in Java Threads and was able to implement a, b and c in the stipulated time. He asked for the complete working code and mail the code to his shared mail Id. I have mailed the code later in the day after I finished all my rounds.

2nd round: It was problem solving round. Interviewer asked two simple problem solving questions. This round went very well.

1st Question : He asked to implement a data structure which takes constant time for insert, delete, search and getRandom operations. Solved it using array and hashmap.

2nd Question :This was a simple DP question. Given stock prices at every hour of a trading day find out what the maximum profit can be made. Solved it using two variables storing current and previous max profits.

3rd round: This round didn't go well, had difficulty in understanding Interviewers requirements. Asked me to design a system which gives insights about clients. When I was asking about the requirements and trying to understand the insights he was little confused and asked me to design a data feeds system. Requirements :

1) There are two data streams, one is scheduled job and other is controlled stream which should be reflected in searches immediately.

2) There are millions of requests per hour and system should handle it efficiently.

I told him I will separate Write and Read DBs and a broker service which will update the read dbs when data from 2nd stream is coming. Also discussed about Cache on top of Read Dbs using consistent hashing techniques. The interviewer was more aligned about technologies I will be using, I mentioned I will use MongoDb as there is no definite schema for the feeds and also will be easy for scaling. But he wasn't convinced, even I didn't get proper hints or failures of my approach from him.

Later I realized that this use case is best example for using Kafka for data streams and for serving user requests for data using Redis or other key-value pair NoSql could be used.