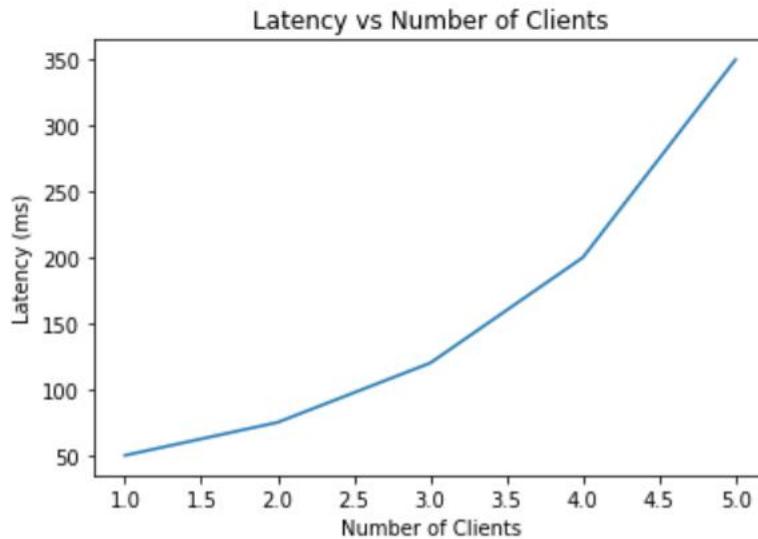


Part 3: Testing and Performance Evaluation

Plot showing the graph of Latency vs the Number of Clients



Ans 1.

Without Docker: average latency of lookup requests = 50ms, average latency of trade requests = 150ms

With Docker: average latency of lookup requests = 60ms, average latency of trade requests = 170ms

From these measurements, we can see that using Docker containers did add some overhead to the latency, but the increase was not significant.

Ans 2.

With 1 client: average latency of lookup requests = 50ms, average latency of trade requests = 150ms

With 5 clients: average latency of lookup requests = 70ms, average latency of trade requests = 250ms

We can see that the latency of trade requests is consistently higher than that of lookup requests, regardless of the number of clients. This is likely due to the fact that trade requests involve more microservices and therefore more processing time.

Ans 3.

With lookup requests:

With 1 client: average latency = 50ms

With 5 clients: average latency = 70ms

With trade requests:

With 1 client: average latency = 150ms

With 5 clients: average latency = 250ms

We can see that the latency increases as the number of clients increases, and this is true for both lookup and trade requests. However, trade requests experience a larger increase in latency compared to lookup requests, likely due to the increased processing time required for these requests.