

## **Kafka test setup (kafkaDelay3Full)**

Technology: Kafka Streams

Producer Delay (Send next message): 3ms

Full data set (qty): 8760

Number of tests performed: 20

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## **Kafka median values**

End Subtract Start: 0.083800000000000001

## **Kafka standard deviation**

End Subtract Start: 0.24411373493556607

Lower Bound: -0.5934359707884334

UpperBound: 0.871246438824963

Number of data in the std range: 8504

Number of data outside the std range: 256

## **Kafka interquartile range**

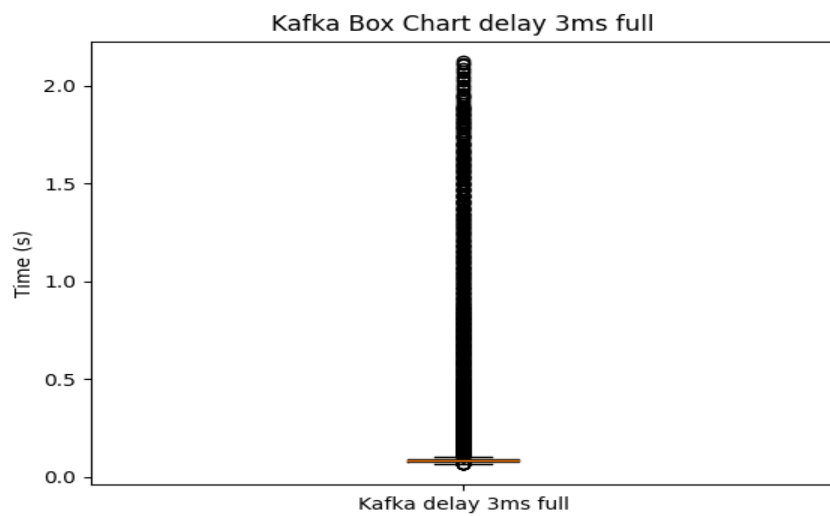
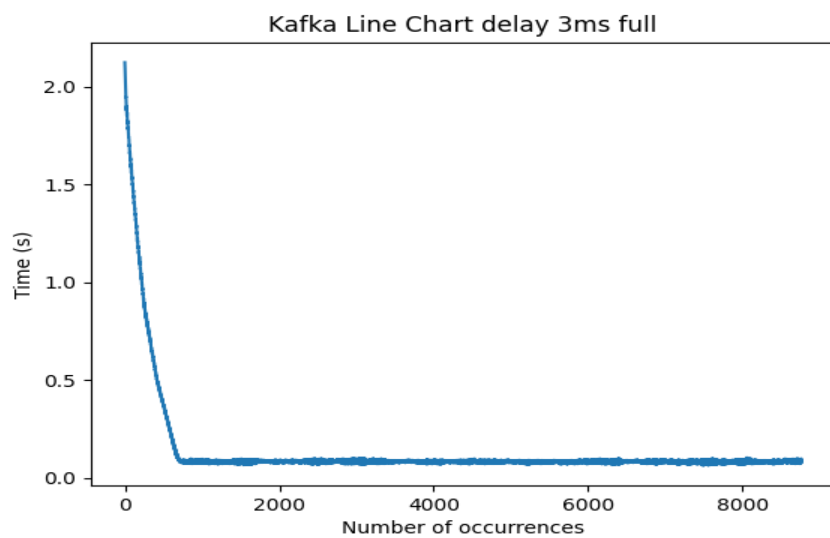
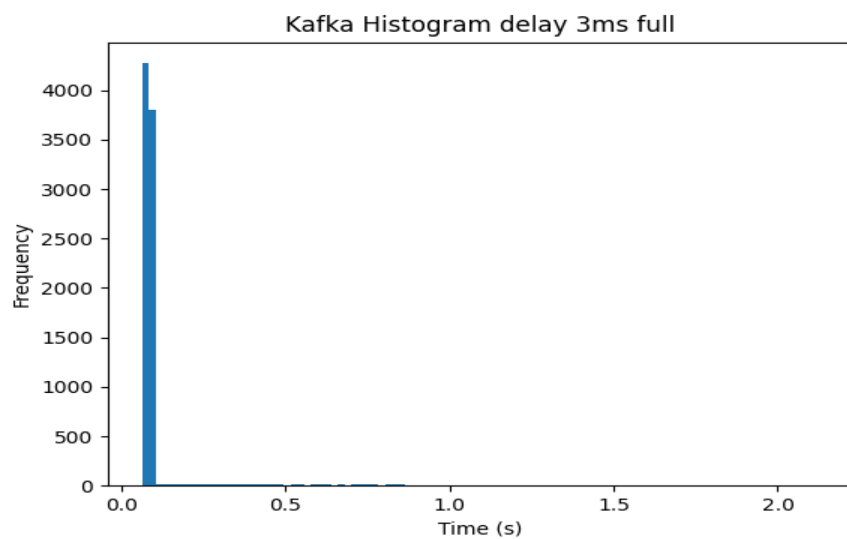
End Subtract Start: 0.0091999999999999986

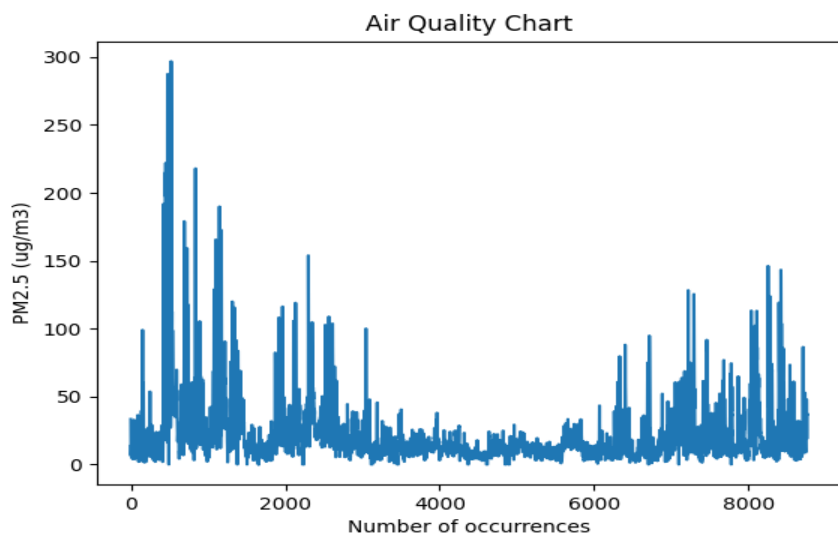
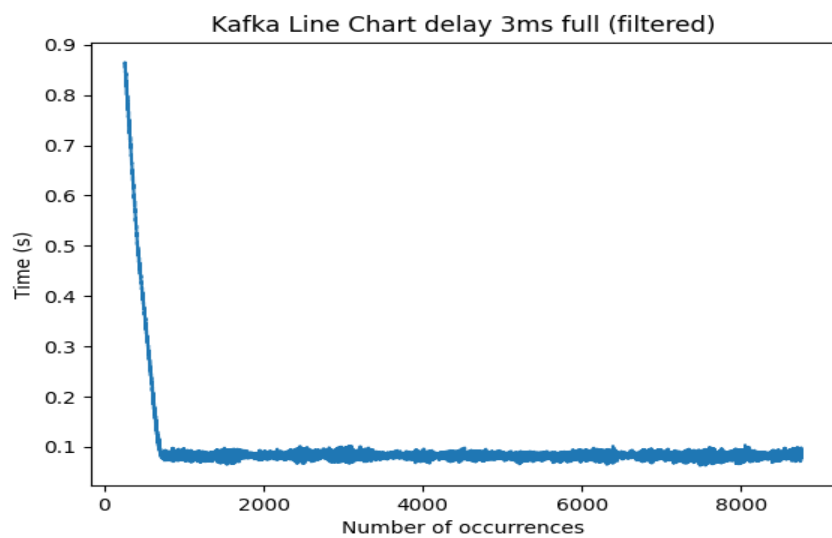
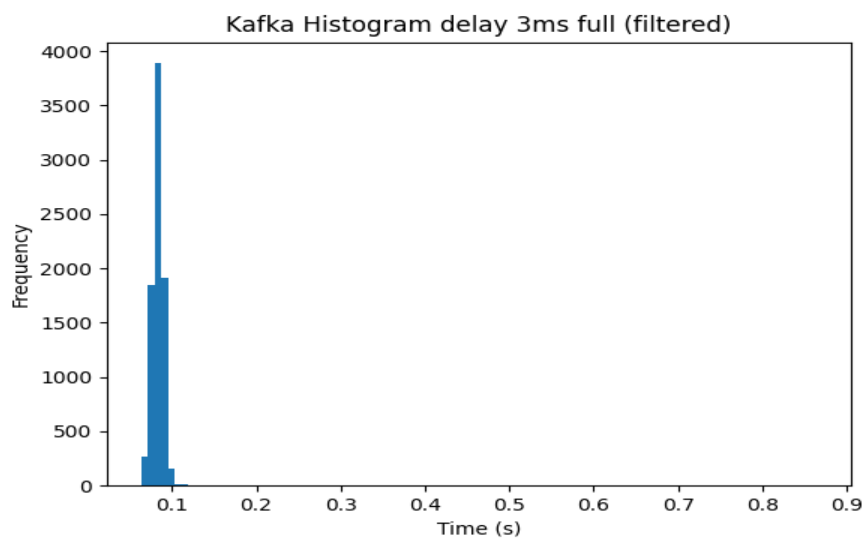
## **Kafka mean**

End Subtract Start: 0.13890523401826485

## **Average time for each sample**

0.08846518264840185	0.08297694063926941	0.0831502283105023
0.23180753424657535	0.1351904109589041	0.08303333333333335
0.4684143835616438	0.0831480593607306	0.5222555936073059
0.08296449771689499	0.08261598173515981	0.0829318493150685
0.08312694063926941	0.1411519406392694	0.08288607305936074
0.08300502283105023	0.08283333333333333	0.10835171232876711
0.0829785388127854	0.08681712328767123	





## Kafka test setup (kafkaDelay0Full)

Technology: Kafka Streams

Producer Delay (Send next message): 0ms

Full data set (qty): 8760

Number of tests performed: 20

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Kafka median values

End Subtract Start: 3.9907749999999993

## Kafka standard deviation

End Subtract Start: 0.6465114863052835

Lower Bound: 2.036467675787346

Upper Bound: 5.915536593619048

Number of data in the std range: 8760

Number of data outside the std range: 0

## Kafka interquartile range

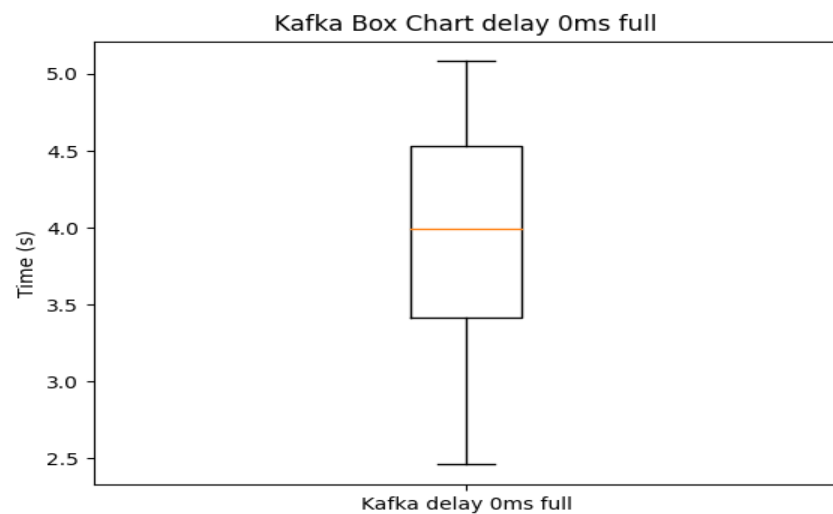
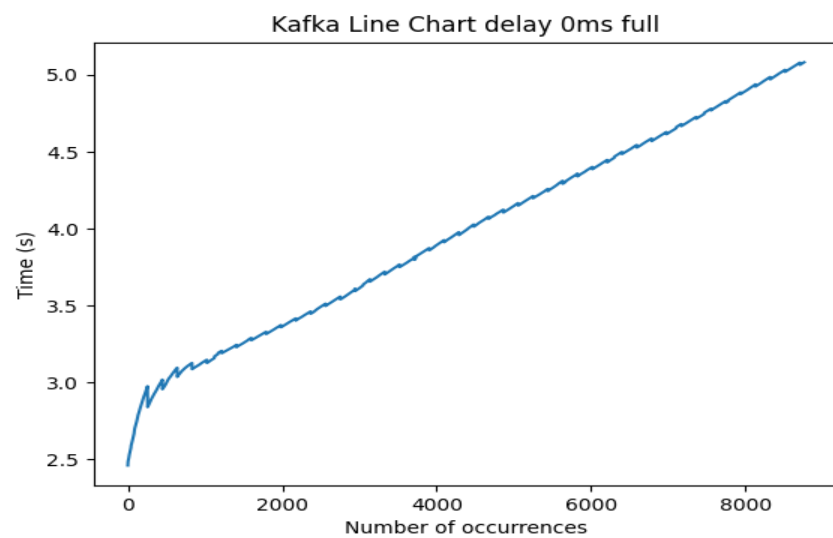
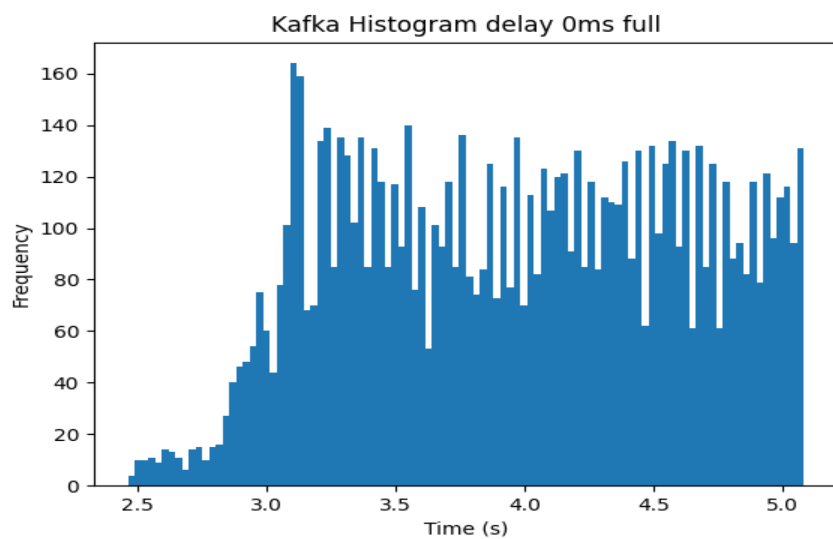
End Subtract Start: 1.1192250000000001

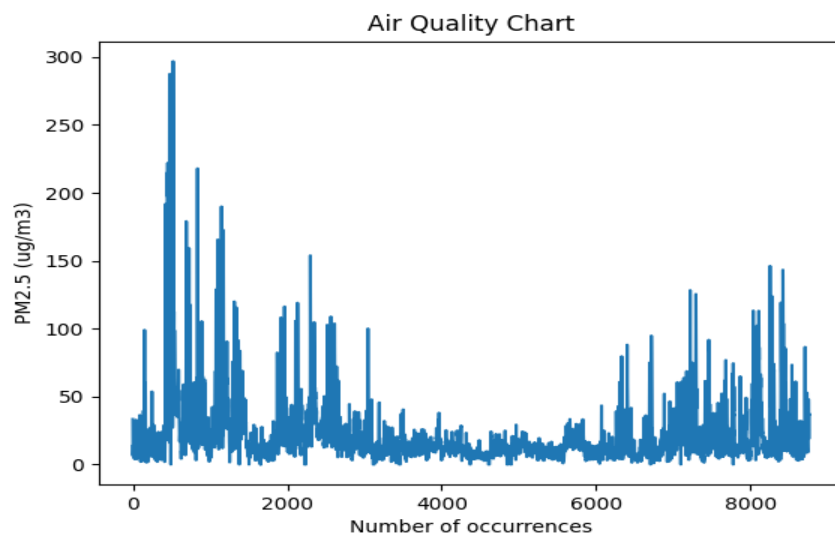
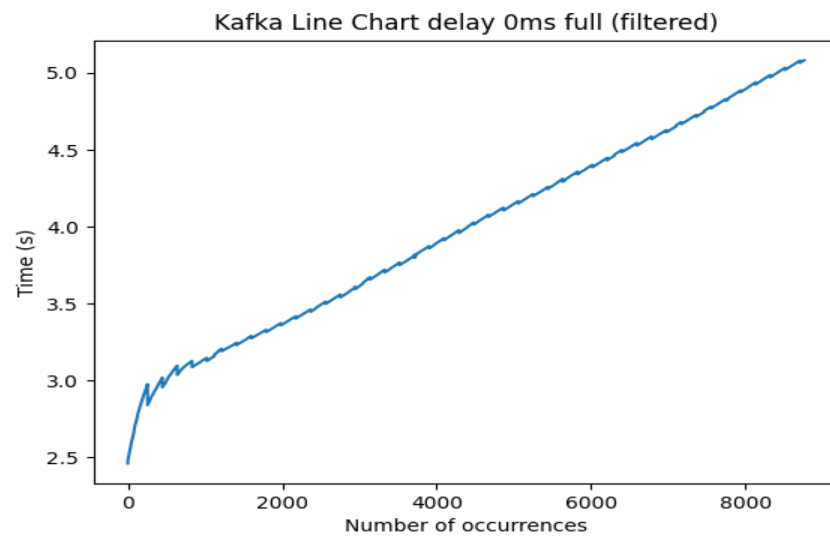
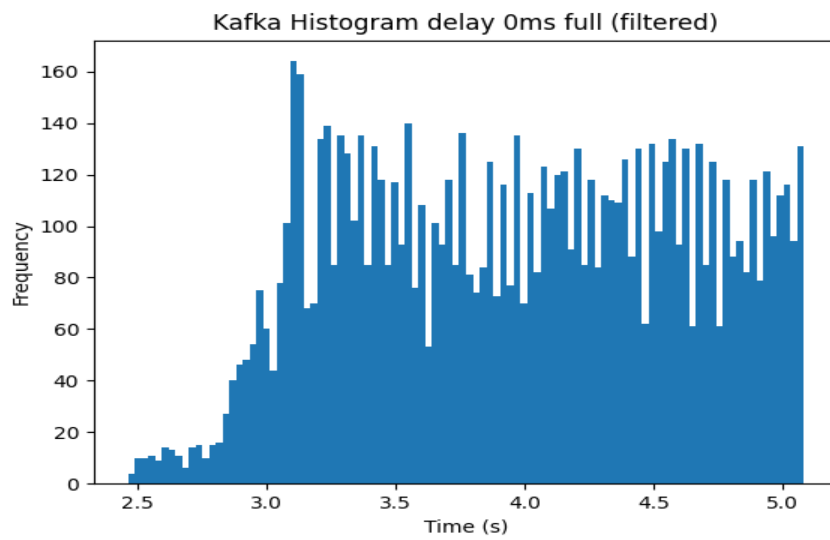
## Kafka mean

End Subtract Start: 3.976002134703197

## Average time for each sample

2.5296270547945205	1.9596102739726025	2.0990082191780823
3.2746164383561642	1.7555133561643836	2.646083105022831
3.370670319634703	2.1071792237442923	10.574156735159818
7.155085388127853	1.8247570776255706	1.8616700913242008
6.4979575342465745	10.542788698630137	1.700328310502283
1.984551712328767	1.946854109589041	9.87105102739726
4.1422457762557086	1.6762882420091325	





## Kafka test setup (kafkaDelay0Half)

Technology: Kafka Streams

Producer Delay (Send next message): 0ms

Full data set (qty): 4380

Number of tests performed: 20

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Kafka median values

End Subtract Start: 6.3923749999999995

## Kafka standard deviation

End Subtract Start: 0.3290838842288253

Lower Bound: 5.459677867861469

Upper Bound: 7.434181173234421

Number of data in the std range: 4380

Number of data outside the std range: 0

## Kafka interquartile range

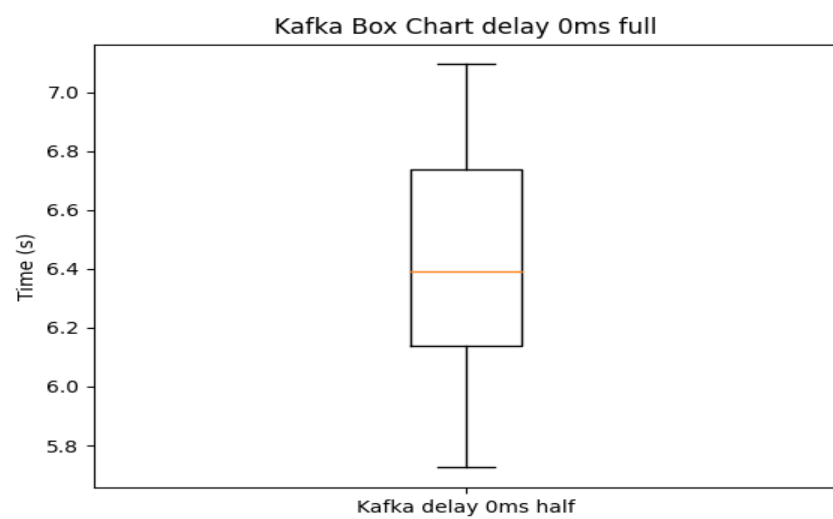
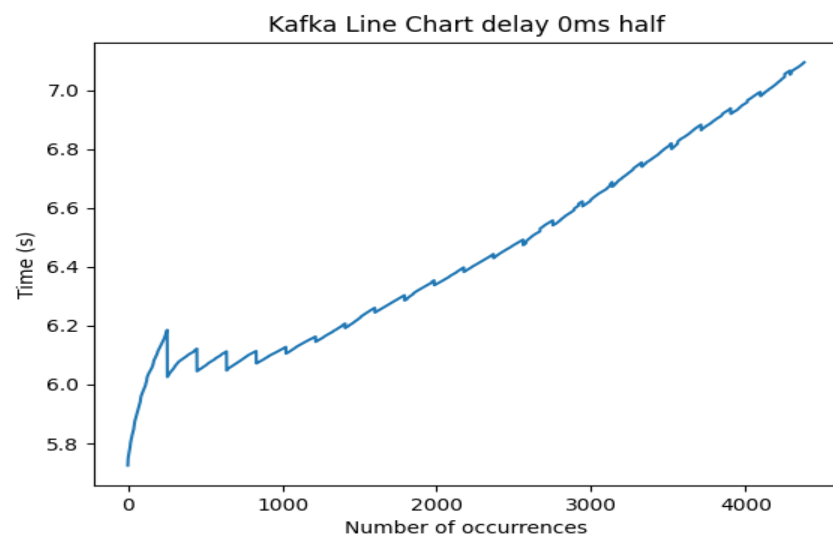
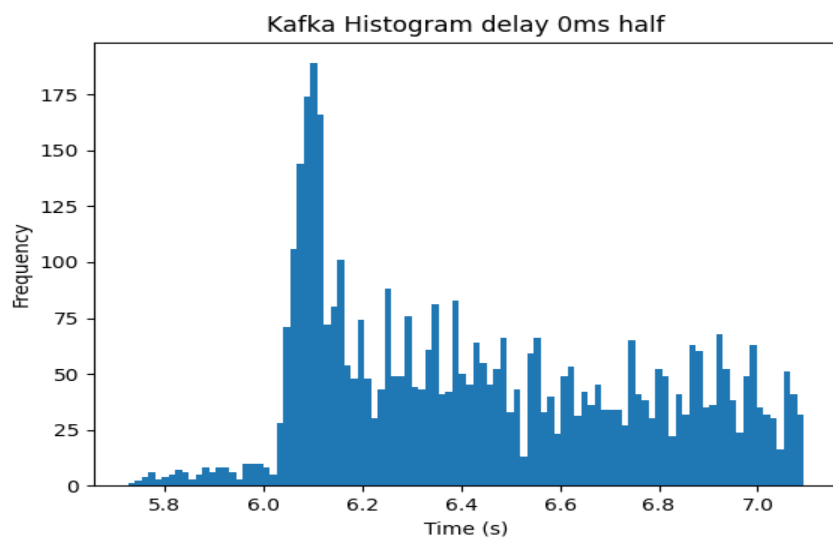
End Subtract Start: 0.5982624999999998

## Kafka mean

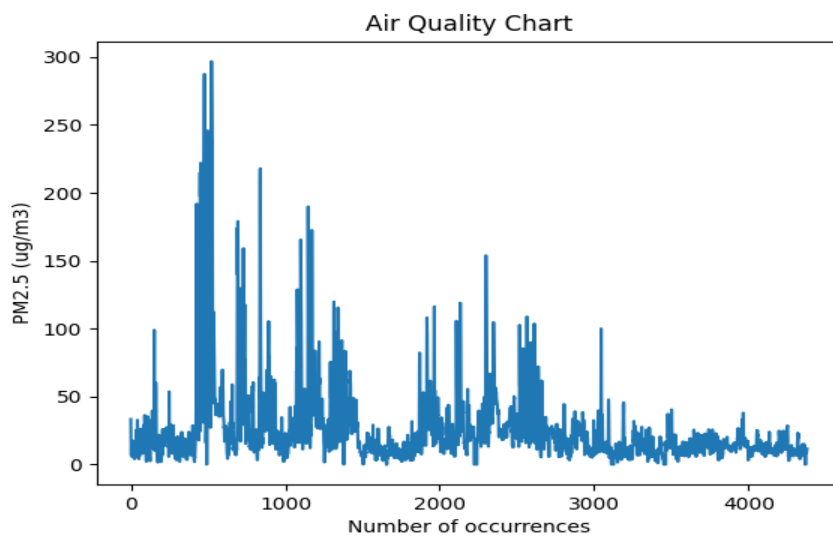
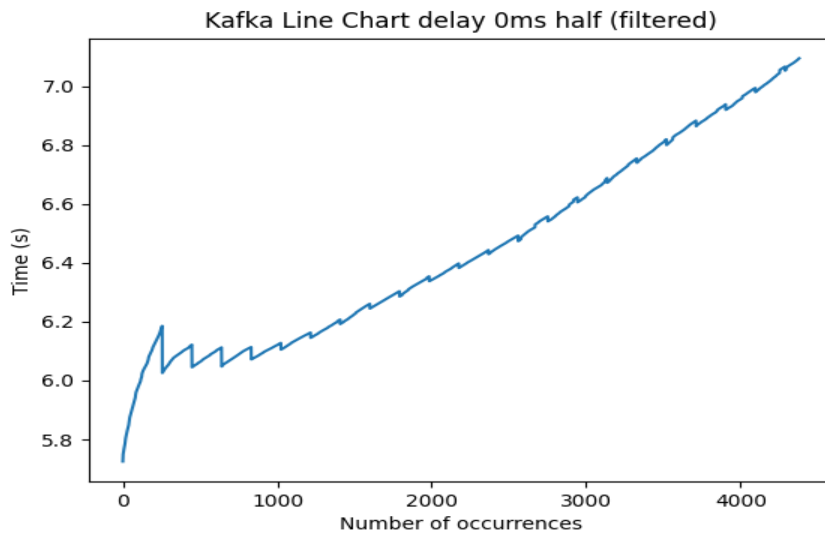
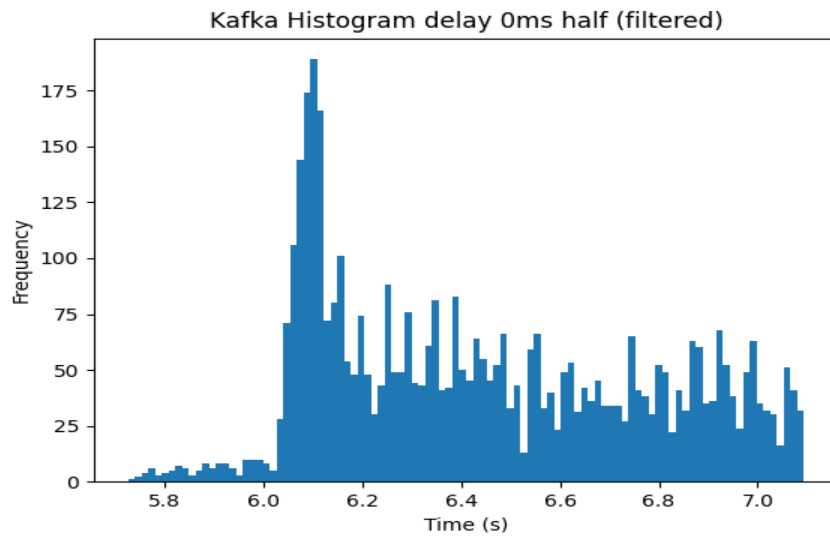
End Subtract Start: 6.446929520547945

## Average time for each sample

2.8113625570776257	1.148457077625571	1.1442707762557078
15.065976940639267	7.243599543378996	1.085281506849315
1.012836301369863	1.257685388127854	3.074339041095891
1.0819662100456622	1.3277712328767124	14.195901826484018
14.042808447488586	8.304279908675799	11.918637214611872
1.0520659817351599	12.747889726027397	8.97447899543379
1.284948401826484	20.164033333333333	







## Spark test setup (sparkDelay3Full)

Technology: Spark Structured Streaming  
Producer Delay (Send next message): 3ms  
Full data set (qty): 8760  
Number of tests performed: 20  
Start: Timestamp from Producer  
End: Timestamp from Consumer  
Unit: The results are given in seconds

## Spark median values

End Subtract Start: 0.7257

## Spark standard deviation

End Subtract Start: 0.27339852932738384  
Lower Bound: -0.050831329991283924  
Upper Bound: 1.5895598459730191  
Number of data in the std range: 8605  
Number of data outside the std range: 155

## Spark interquartile range

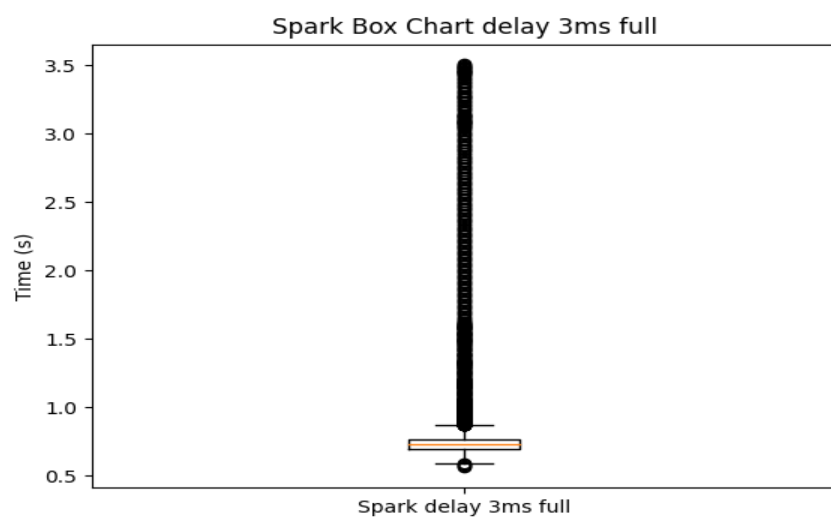
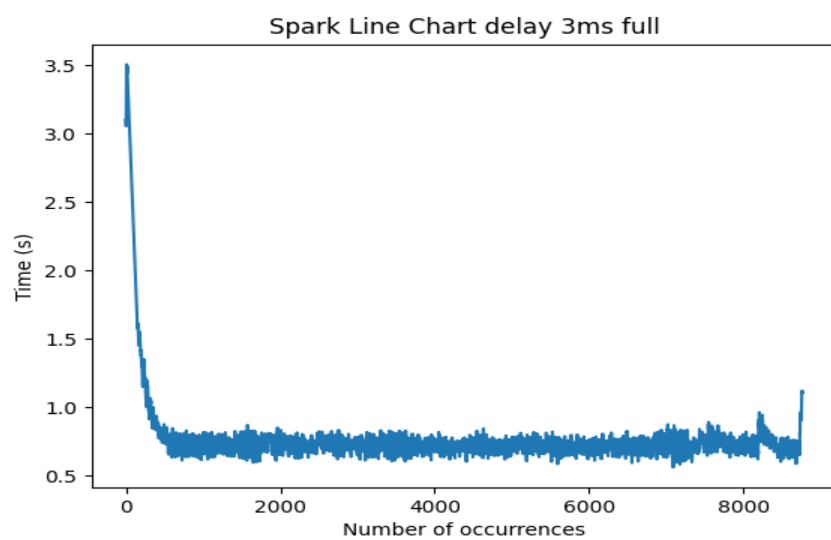
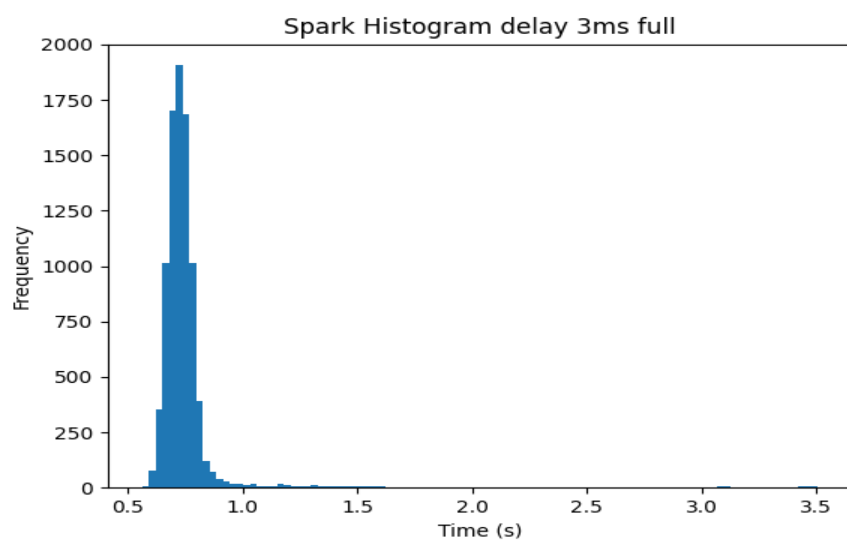
End Subtract Start: 0.07066249999999996

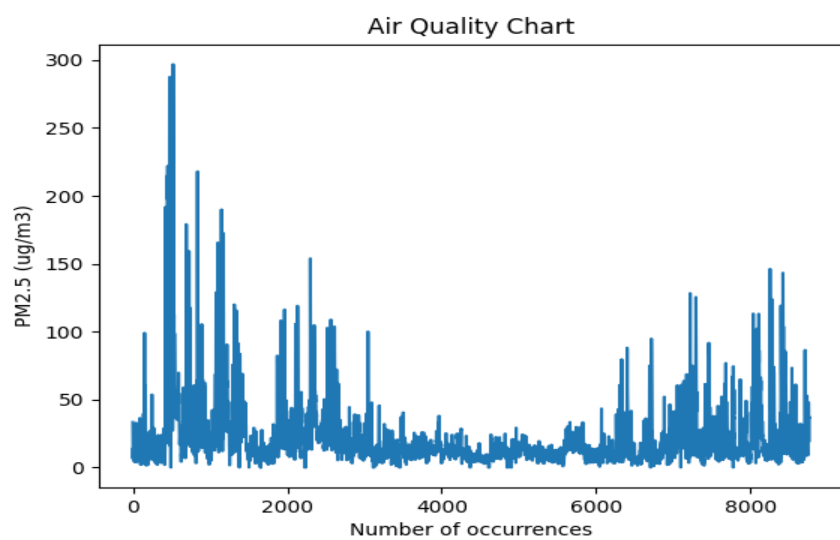
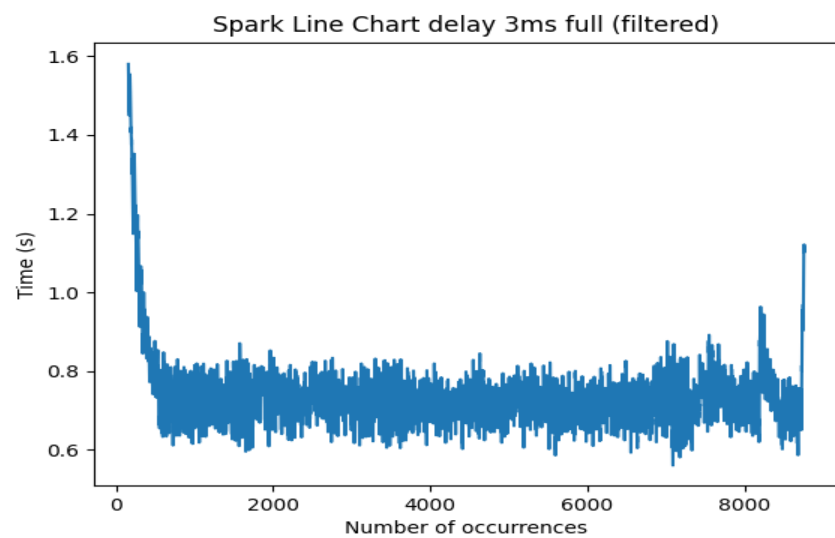
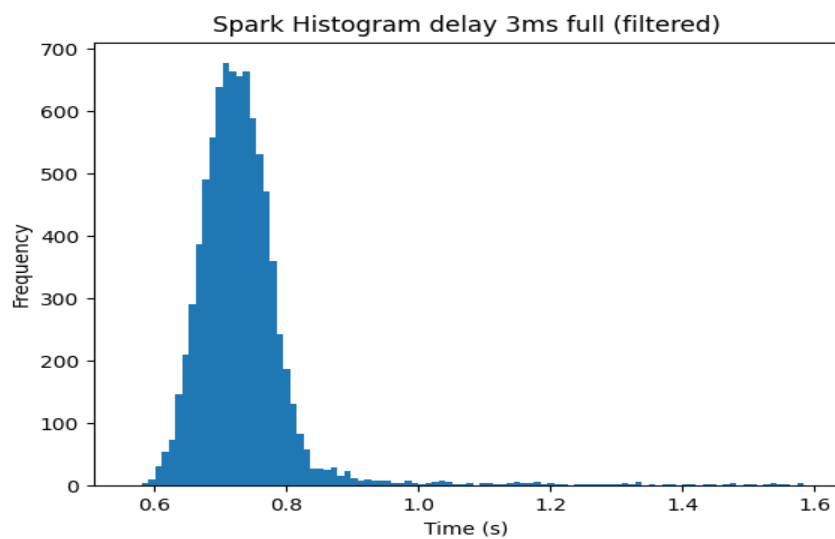
## Spark mean

End Subtract Start: 0.7693642579908676

## Average time for each sample

1.555434589041096	0.7010439497716896	0.7204858447488585
0.7087466894977169	0.6877687214611873	0.7220965753424656
0.7223592465753425	0.7522775114155251	0.9587325342465752
0.7263180365296804	0.6809957762557077	0.7075905251141552
0.7141146118721461	0.6967585616438356	0.7124529680365297
0.8008558219178081	0.7108287671232877	0.7167045662100456
0.704232191780822	0.6874876712328767	





## Spark test setup (sparkDelay0Full)

Technology: Spark Structured Streaming  
Producer Delay (Send next message): 0ms  
Full data set (qty): 8760  
Number of tests performed: 20  
Start: Timestamp from Producer  
End: Timestamp from Consumer  
Unit: The results are given in seconds

## Spark median values

End Subtract Start: 5.3306249999999995

## Spark standard deviation

End Subtract Start: 0.7869281275634733  
Lower Bound: 2.926091216624649  
Upper Bound: 7.647659982005489  
Number of data in the std range: 8760  
Number of data outside the std range: 0

## Spark interquartile range

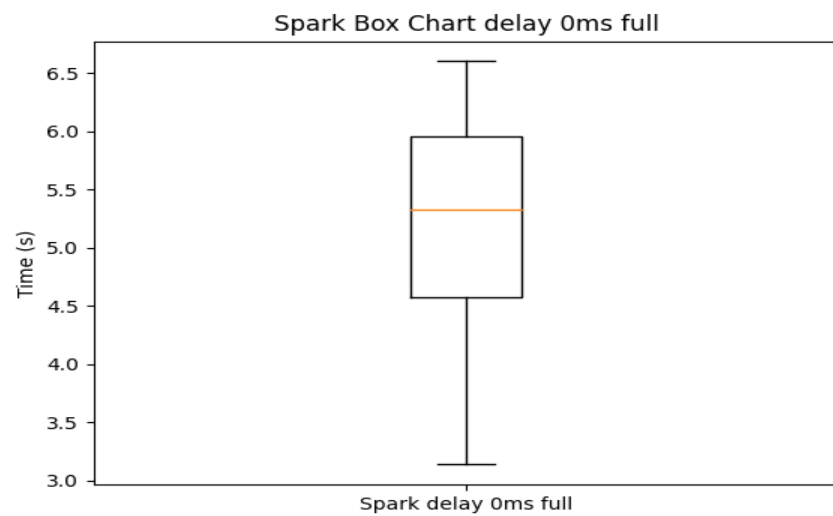
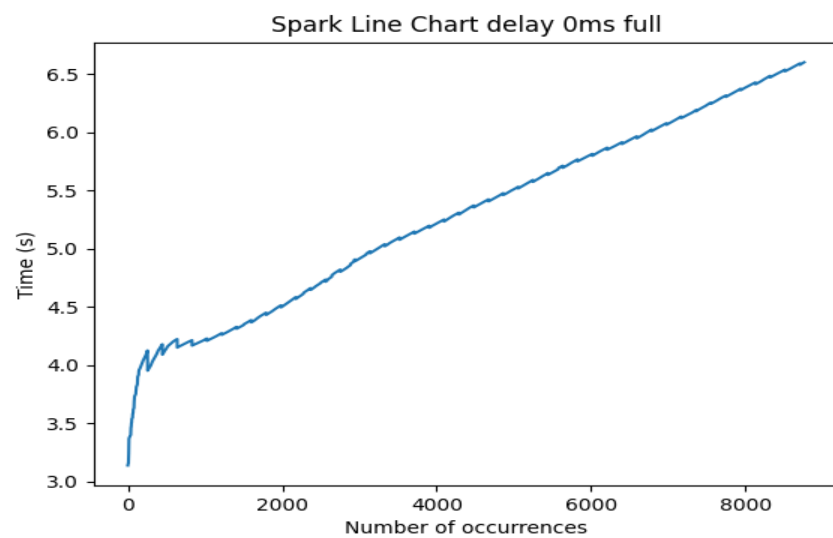
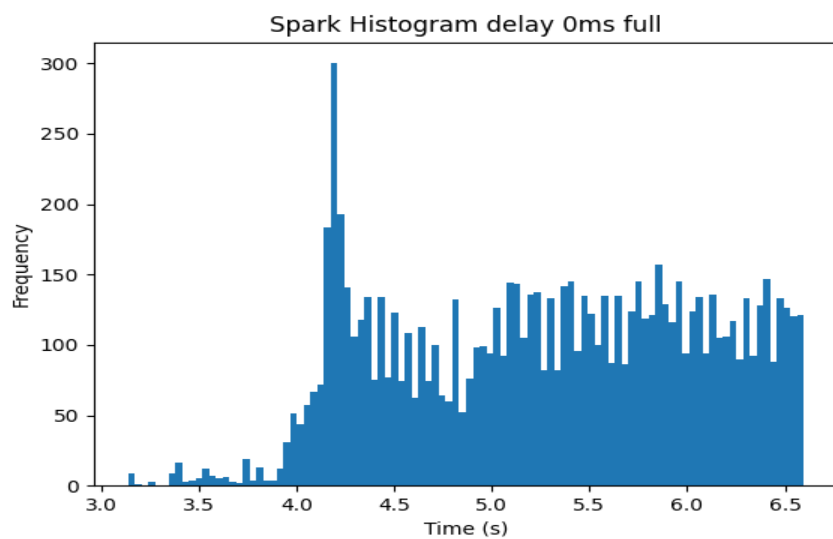
End Subtract Start: 1.3726624999999997

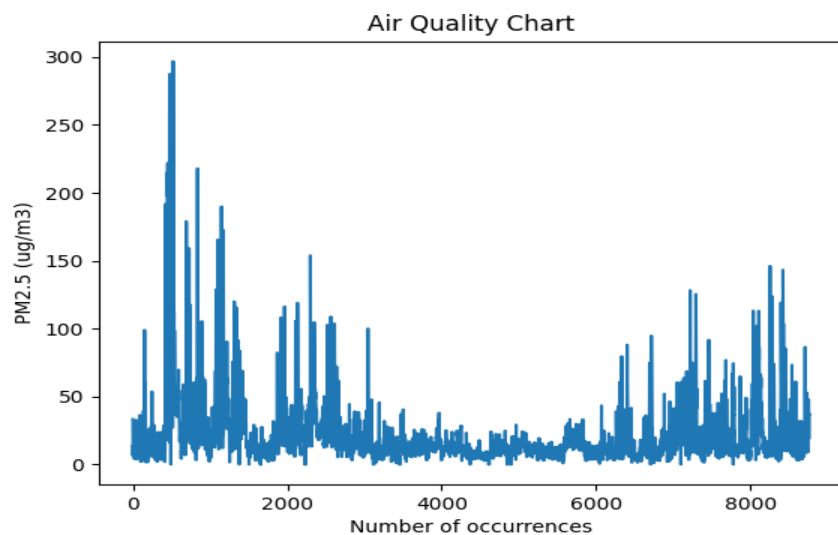
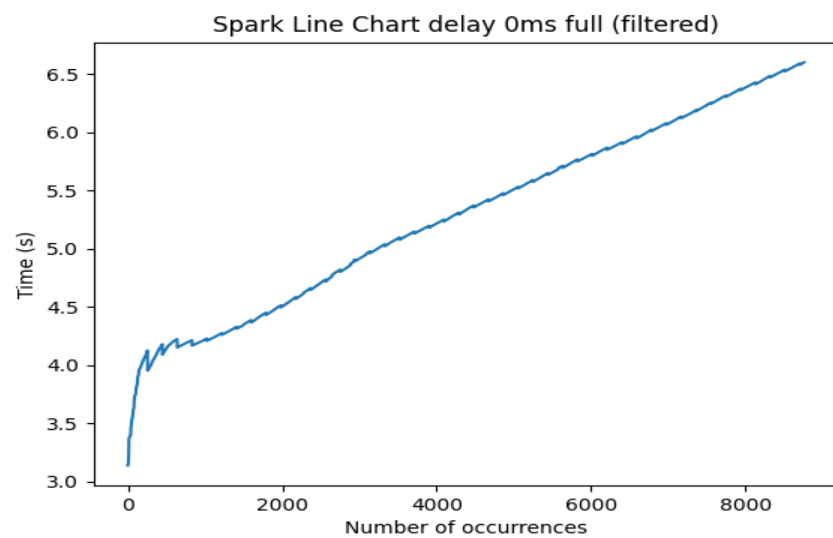
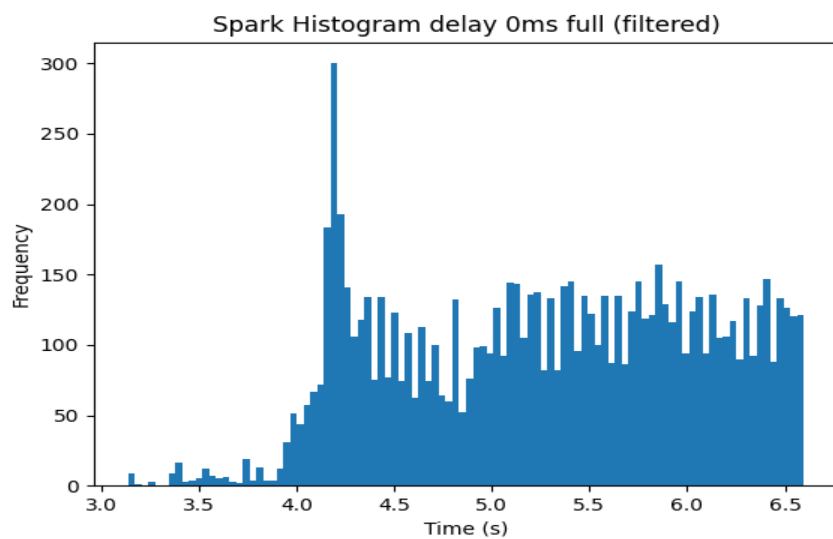
## Spark mean

End Subtract Start: 5.286875599315069

## Average time for each sample

10.360887557077625	4.505659589041097	4.92744189497717
5.237693721461187	4.7533018264840186	5.167374429223745
4.451766324200913	4.443907876712328	4.8554695205479455
5.402025570776256	4.891214269406392	4.972946803652968
4.6264956621004565	4.186649429223745	4.777895433789954
4.758008789954338	4.66363105022831	4.812360730593607
4.716850570776255	9.225930936073059	





## Spark test setup (sparkDelay0Half)

Technology: Spark Structured Streaming  
Producer Delay (Send next message): 0ms  
Full data set (qty): 4380  
Number of tests performed: 20  
Start: Timestamp from Producer  
End: Timestamp from Consumer  
Unit: The results are given in seconds

## Spark median values

End Subtract Start: 4.729724999999999

## Spark standard deviation

End Subtract Start: 0.41458985732253595  
Lower Bound: 3.5089364554296525  
Upper Bound: 5.996475599364868  
Number of data in the std range: 4375  
Number of data outside the std range: 5

## Spark interquartile range

End Subtract Start: 0.74241249999999986

## Spark mean

End Subtract Start: 4.75270602739726

## Average time for each sample

8.790803196347033	3.7517568493150684	4.1874315068493155
3.809788812785388	3.9458321917808226	3.665502739726028
3.558179452054795	3.8772066210045666	4.1042659817351606
5.860282876712329	3.8050755707762556	4.140412785388128
3.864870547945206	4.2244534246575345	14.05036689497717
3.5781853881278542	3.82943493150685	3.9212159817351595
4.205908447488585	3.8831463470319627	



