## Kafka test setup (kafkaDelay3Full)

Technology: Kafka Streams

Producer Delay (Send next message): 3ms

Full data set (qty): 8760

Processed values (qty): 8646

Number of tests performed: 10

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Kafka median values

End Subtract Start: 0.0864

## Kafka standard deviation

End Subtract Start: 0.5619762705249922

Lower Bound: -1.4643740926297997

UpperBound: 1.9074835305201536

Number of data in the std range: 8335
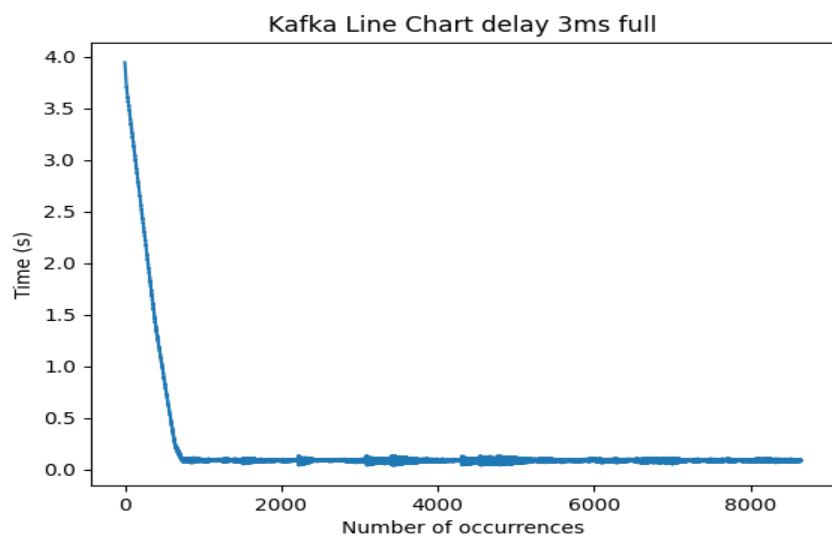
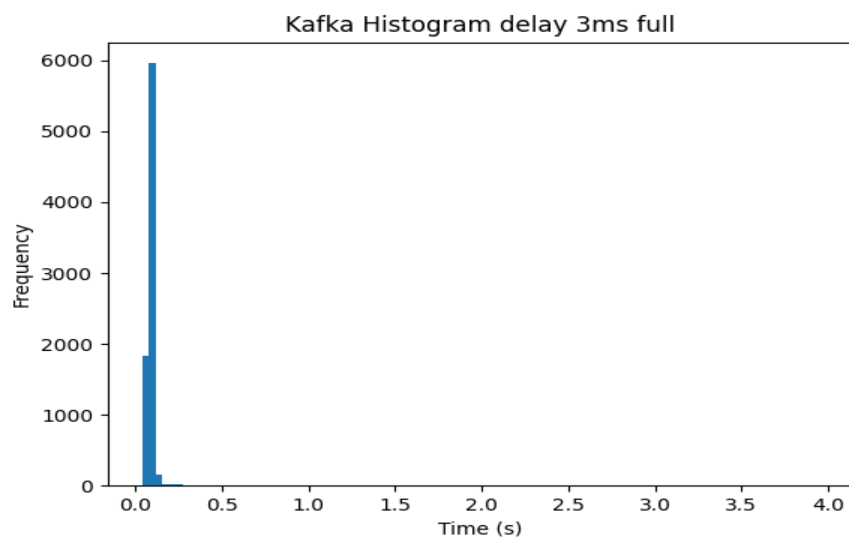Number of data outside the std range: 311

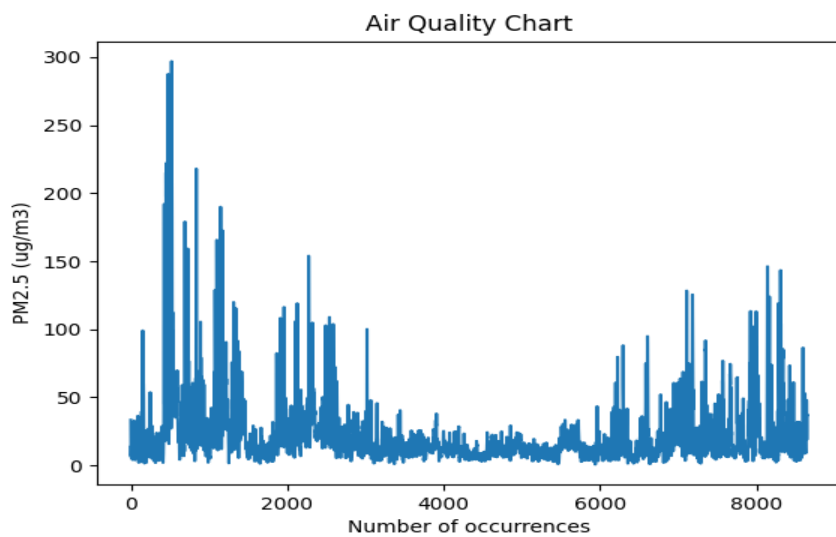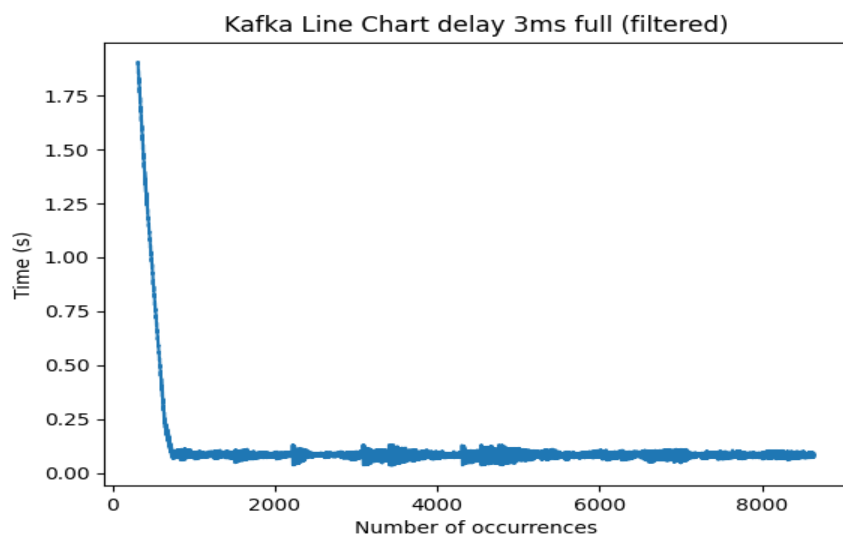## Kafka interquartile range

End Subtract Start: 0.019499999999999976

## Kafka mean

End Subtract Start: 0.221554718945177

## Average time for each sample

| | | |
|---|---|---|
| 0.08504314133703447 | 0.08481505898681471 | 0.08480233634050428 |
| 0.22506812398797135 | 0.44975572519083973 | 0.46306974323386535 |
| 0.5686961600740227 | 0.08508662965533195 | 0.08514561647004396 |
| 0.084064541753412 | | |

Kafka Histogram delay 3ms full

Kafka Line Chart delay 3ms full

Kafka Box Chart delay 3ms full

Kafka Histogram delay 3ms full (filtered)

Kafka Line Chart delay 3ms full (filtered)

Air Quality Chart
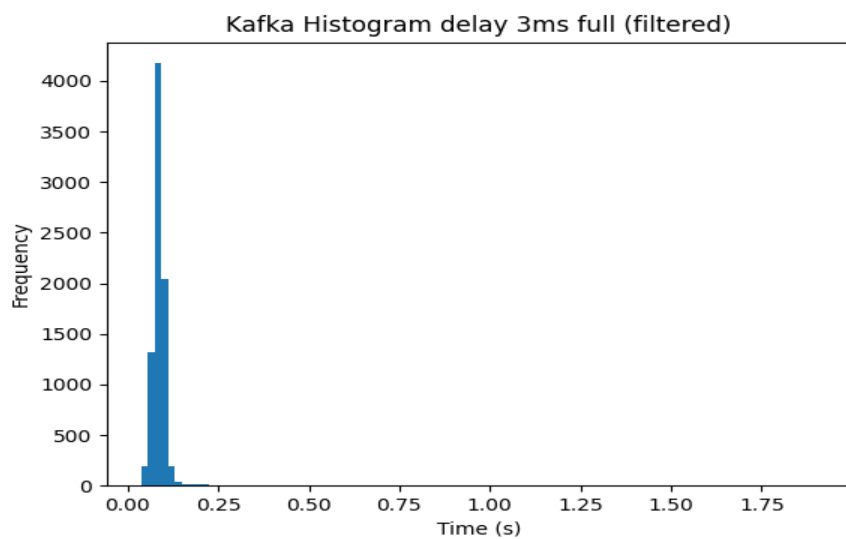
# Kafka test setup (kafkaDelay0Full)

Technology: Kafka Streams

Producer Delay (Send next message): 0ms

Full data set (qty): 8760

Processed values (qty): 8646

Number of tests performed: 10

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Kafka median values

End Subtract Start: 2.94855

## Kafka standard deviation

End Subtract Start: 0.8463923015905146

Lower Bound: 0.4162413927070592

Upper Bound: 5.494595202250147

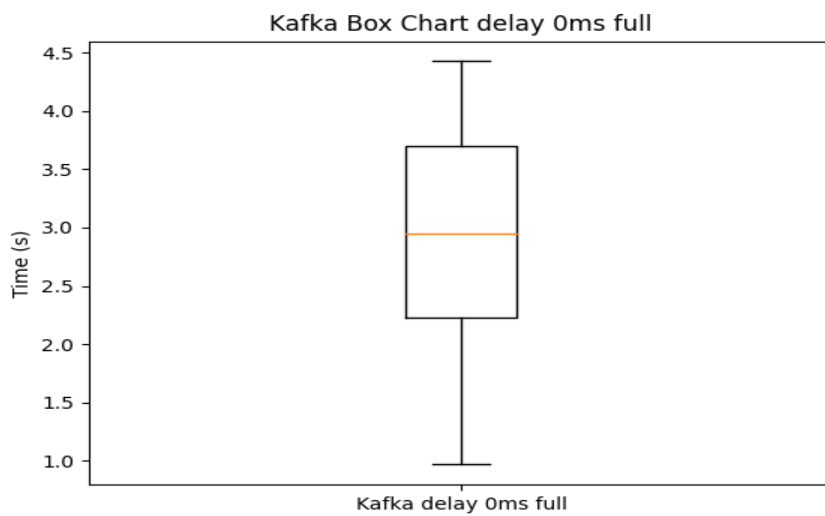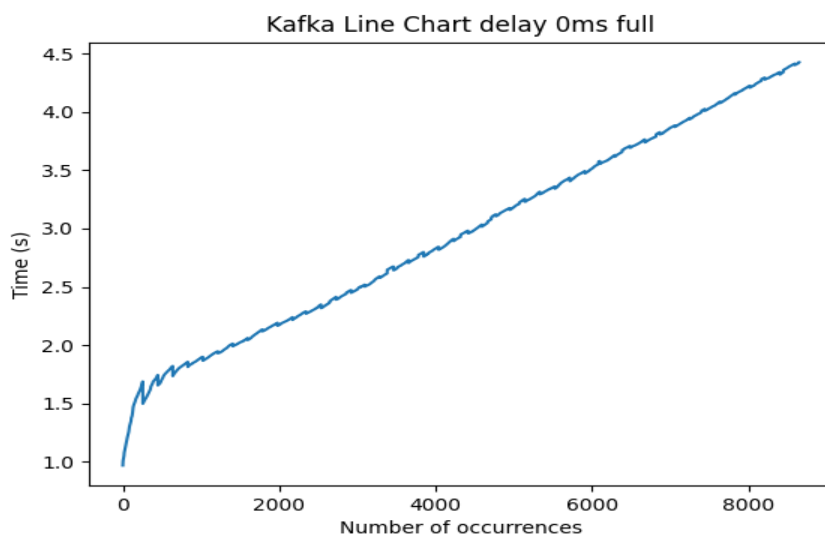Number of data in the std range: 8646

Number of data outside the std range: 0

## Kafka interquartile range
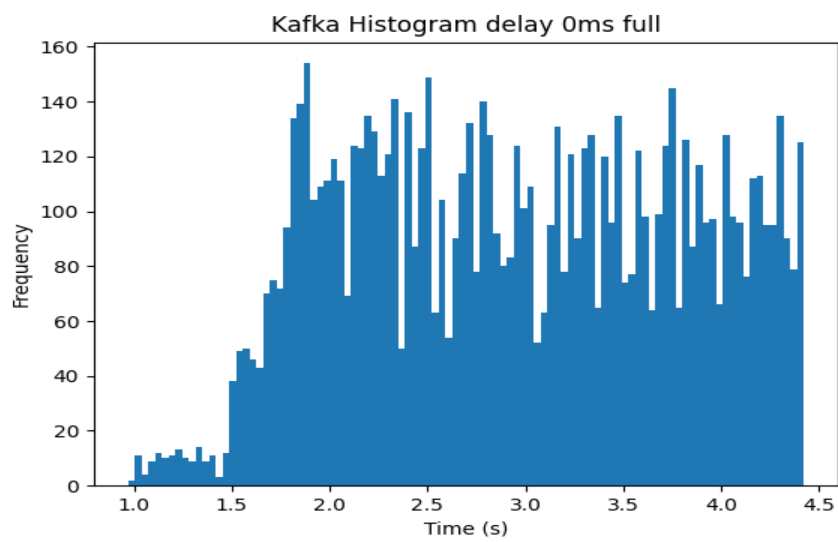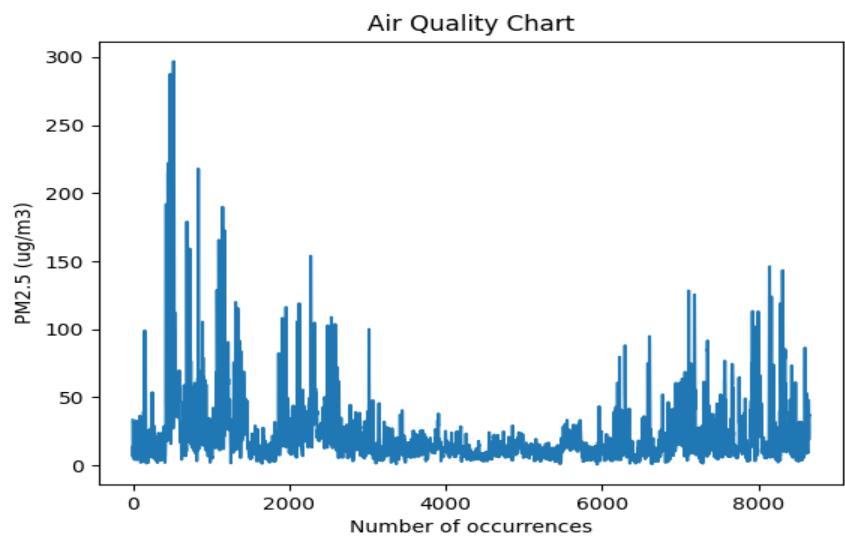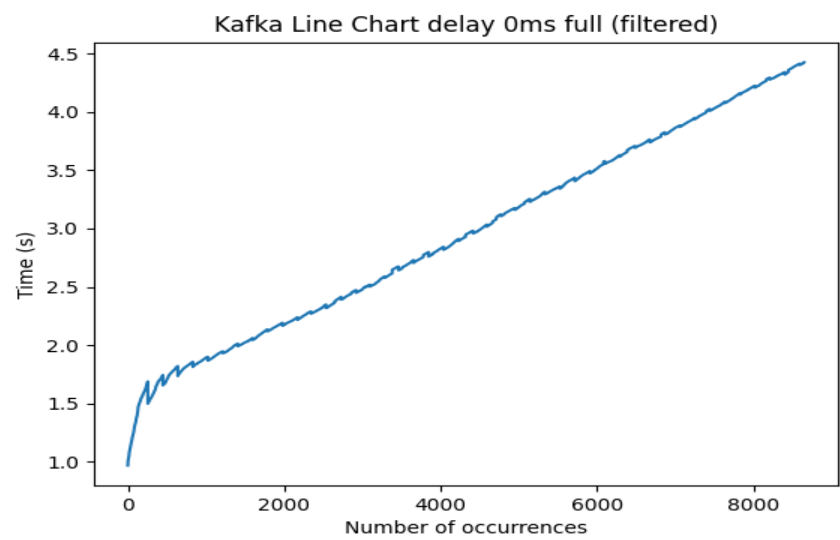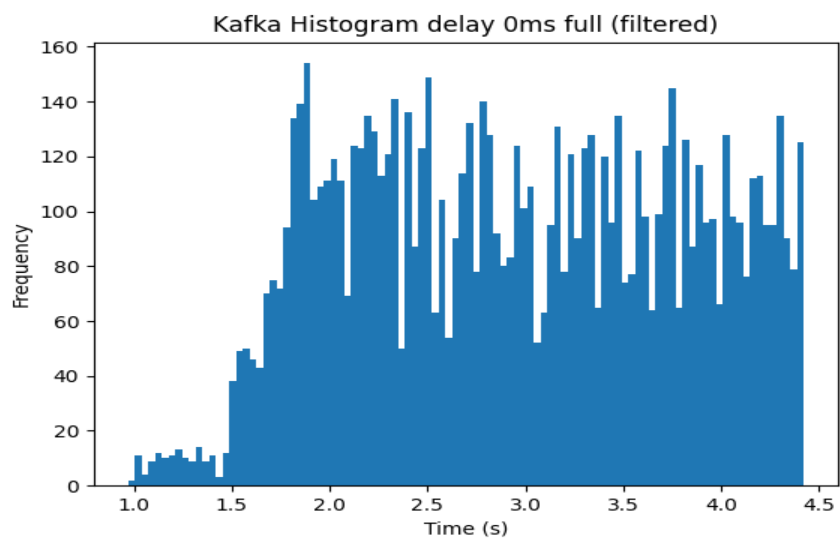
End Subtract Start: 1.4740250000000001

## Kafka mean

End Subtract Start: 2.955418297478603

## Average time for each sample

2.0842100393245433    2.032535507749248    2.5122742308582

2.006325815405968    2.1988132084200784    5.720312051815869

2.3689558177191765    3.5329775618783255    2.883476405274115

4.214302336340504

## Kafka Histogram delay 0ms full

## Kafka Line Chart delay 0ms full

## Kafka Box Chart delay 0ms full

Kafka Histogram delay 0ms full (filtered)

Kafka Line Chart delay 0ms full (filtered)

Air Quality Chart

## Kafka test setup (kafkaDelay0Half)

Technology: Kafka Streams

Producer Delay (Send next message): 0ms

Full data set (qty): 4380

Processed values (qty): 4313

Number of tests performed: 10

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Kafka median values

End Subtract Start: 1.7246

## Kafka standard deviation

End Subtract Start: 0.4048642965612879

Lower Bound: 0.5775999923008337

Upper Bound: 3.0067857716685613

Number of data in the std range: 4313

Number of data outside the std range: 0

## Kafka interquartile range
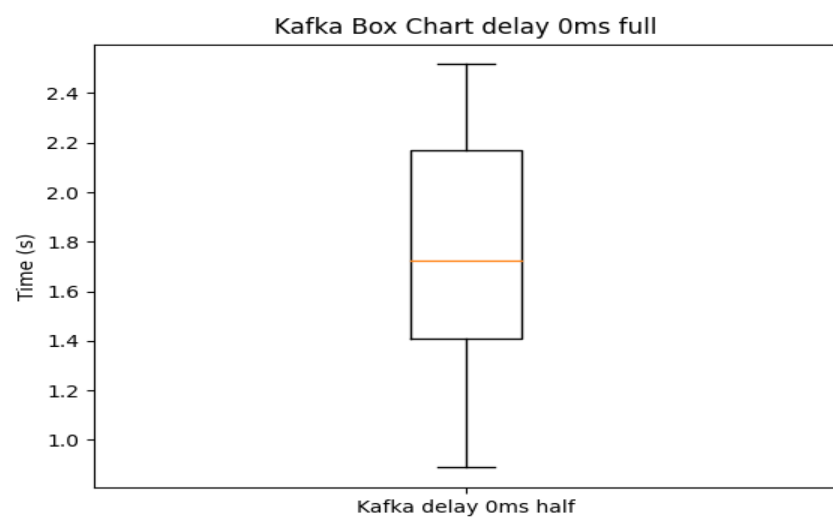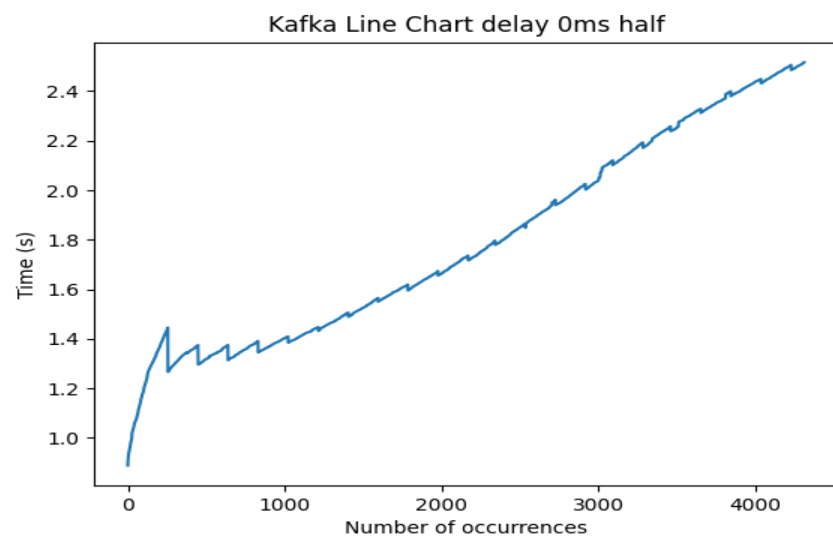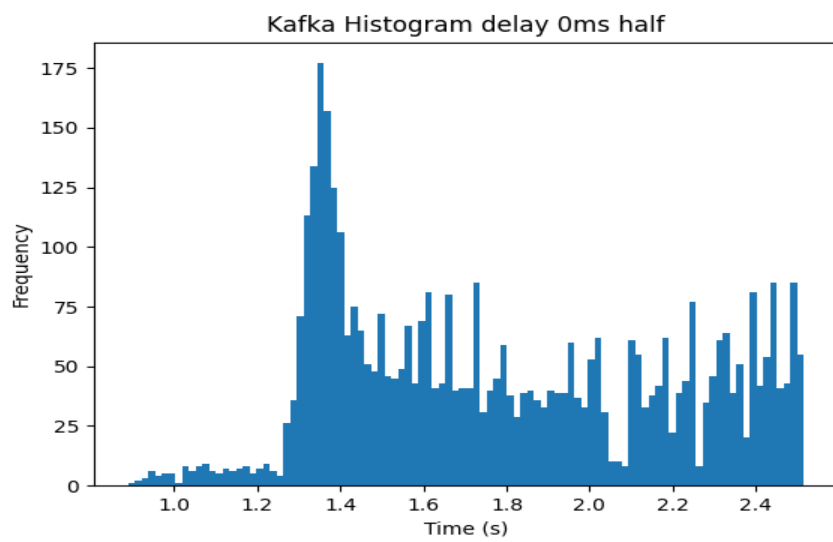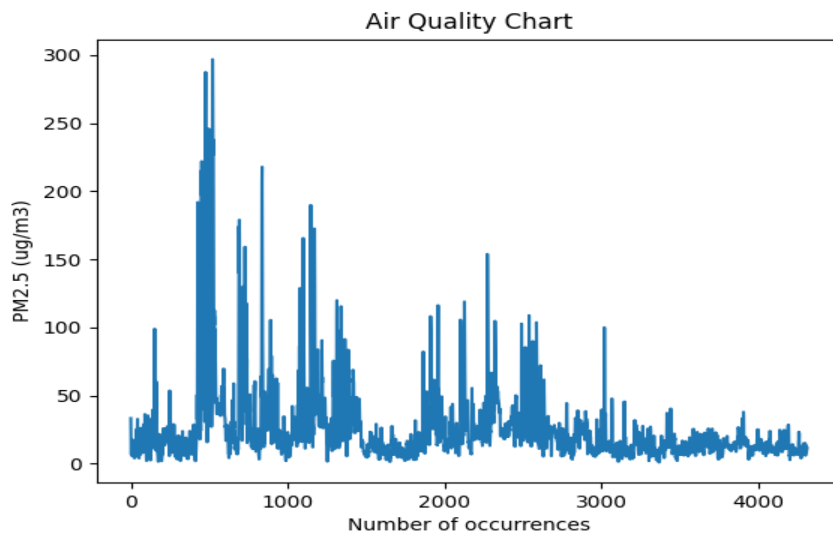
End Subtract Start: 0.7572000000000001

## Kafka mean

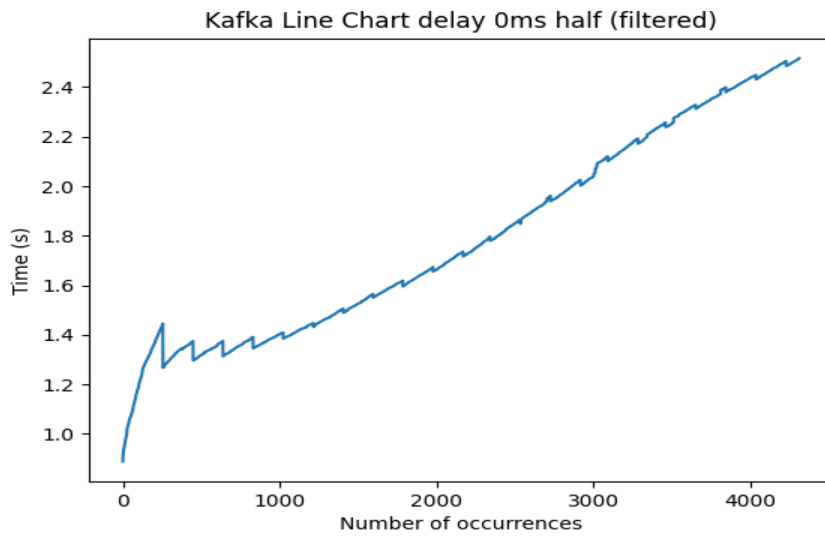End Subtract Start: 1.7921928819846975

## Average time for each sample

| | | |
|---|---|---|
| 1.3894361233480177 | 1.7379967539995362 | 1.1734658010665429 |
| 1.6508428008346858 | 3.8351078135868306 | 1.6793032691861813 |
| 1.6010781358683053 | 1.8745188963598425 | 1.7761882680268952 |
| 1.2039909575701369 | | |

Kafka Histogram delay 0ms half

Kafka Line Chart delay 0ms half

Kafka Box Chart delay 0ms full

Kafka Histogram delay 0ms half (filtered)

Kafka Line Chart delay 0ms half (filtered)

Air Quality Chart
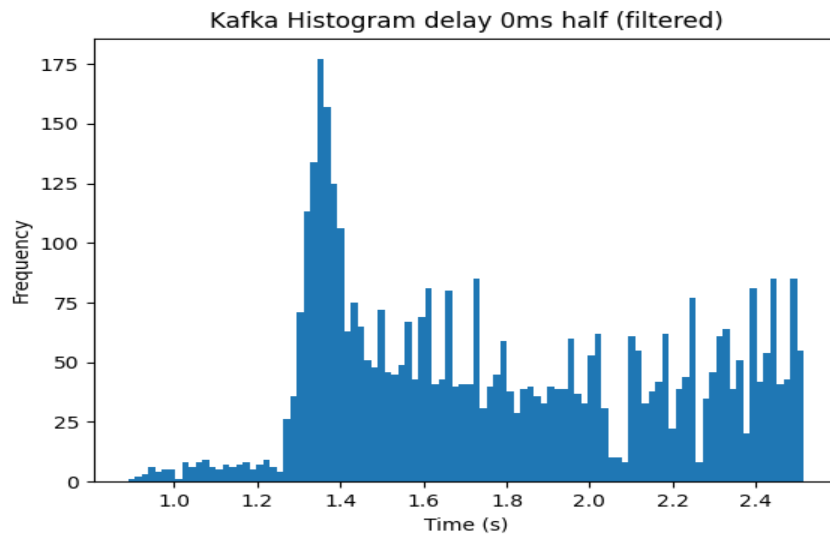
## Spark test setup (sparkDelay3Full)

Technology: Spark Structured Streaming

Producer Delay (Send next message): 3ms

Full data set (qty): 8760

Processed values (qty): 8646

Number of tests performed: 10

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Spark median values

End Subtract Start: 0.80115

## Spark standard deviation

End Subtract Start: 0.5784504173543258

Lower Bound: -0.798260204179563

Upper Bound: 2.6724422999463915

Number of data in the std range: 8410
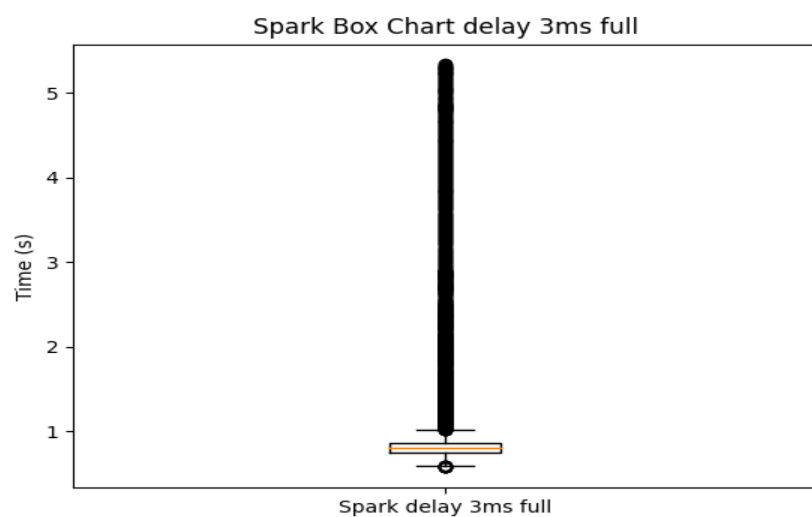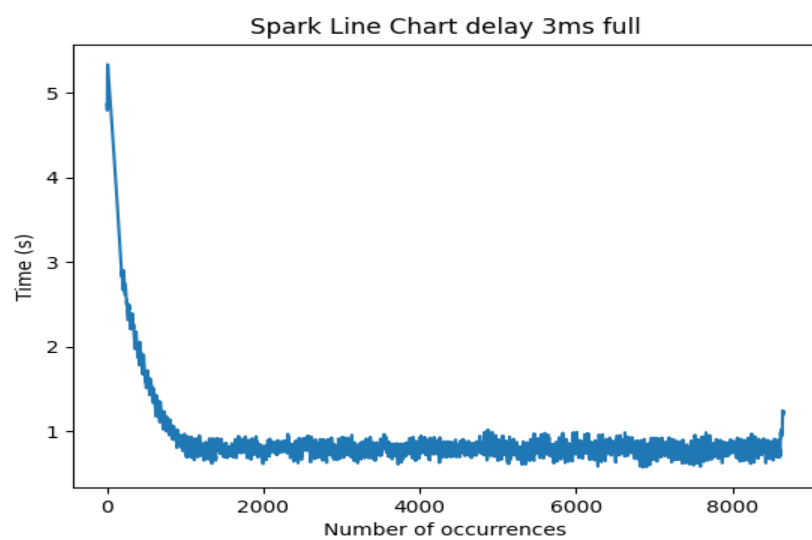
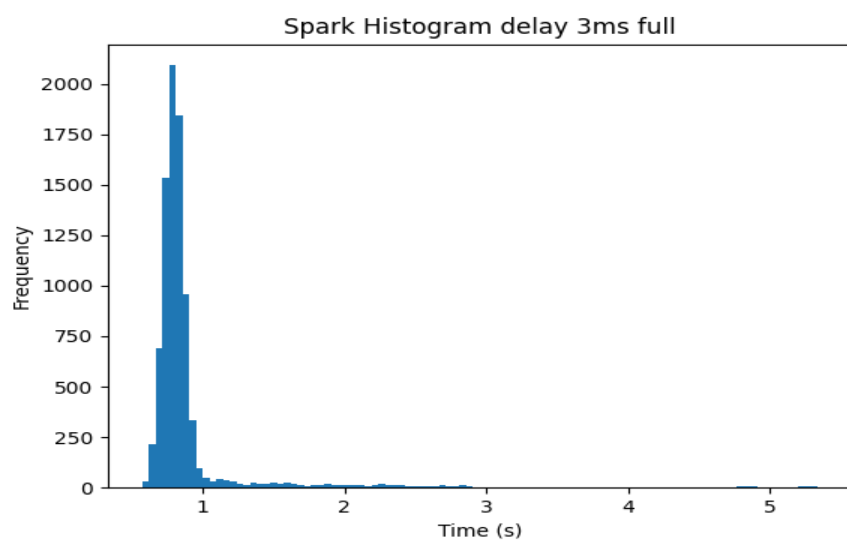Number of data outside the std range: 236

## Spark interquartile range

End Subtract Start: 0.10610000000000008

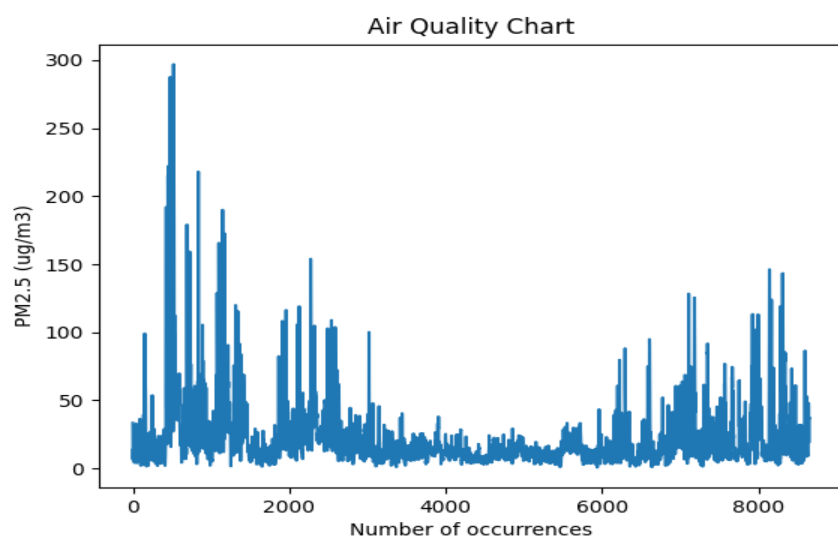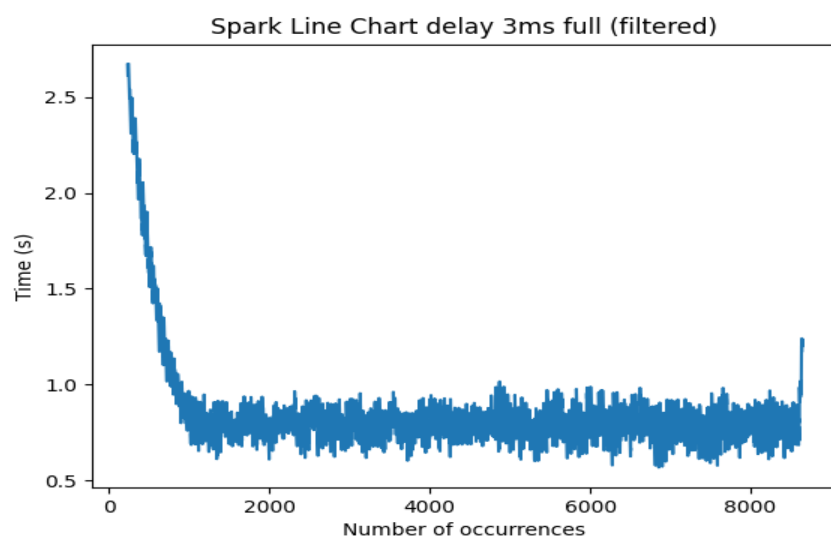## Spark mean

End Subtract Start: 0.9370910478834142

## Average time for each sample

0.8932443904695813    0.8528002544529262    0.8395351607679851

0.8250818875780708    0.8223111265325006    0.8297138561184363

1.07073155216285    0.814232593106639    0.8011066389081657

1.6221530187369884

Spark Histogram delay 3ms full

Spark Line Chart delay 3ms full

Spark Box Chart delay 3ms full

## Spark Histogram delay 3ms full (filtered)

## Spark Line Chart delay 3ms full (filtered)

## Air Quality Chart
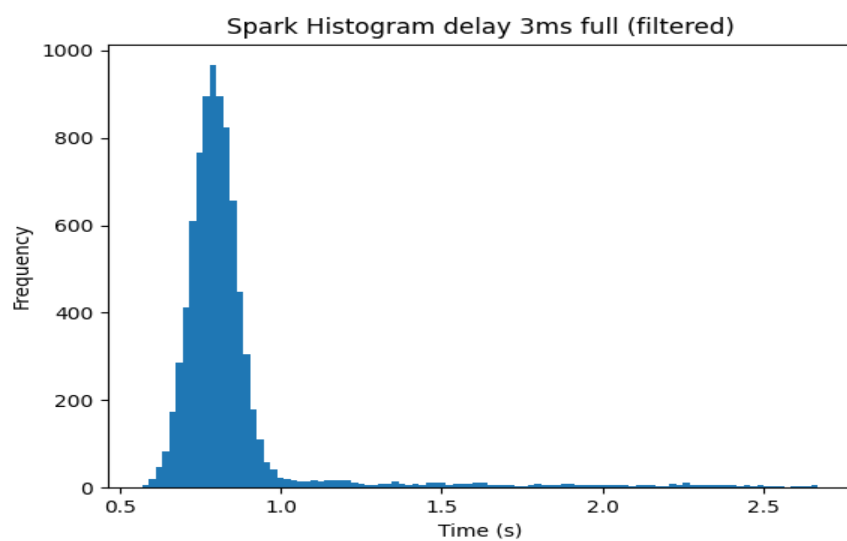
## Spark test setup (sparkDelay0Full)

Technology: Spark Structured Streaming

Producer Delay (Send next message): 0ms

Full data set (qty): 8760

Processed values (qty): 8646

Number of tests performed: 10

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Spark median values

End Subtract Start: 6.662100000000001

## Spark standard deviation

End Subtract Start: 1.091002910061389

Lower Bound: 3.310087187002972

Upper Bound: 9.856104647371305

Number of data in the std range: 8646

Number of data outside the std range: 0
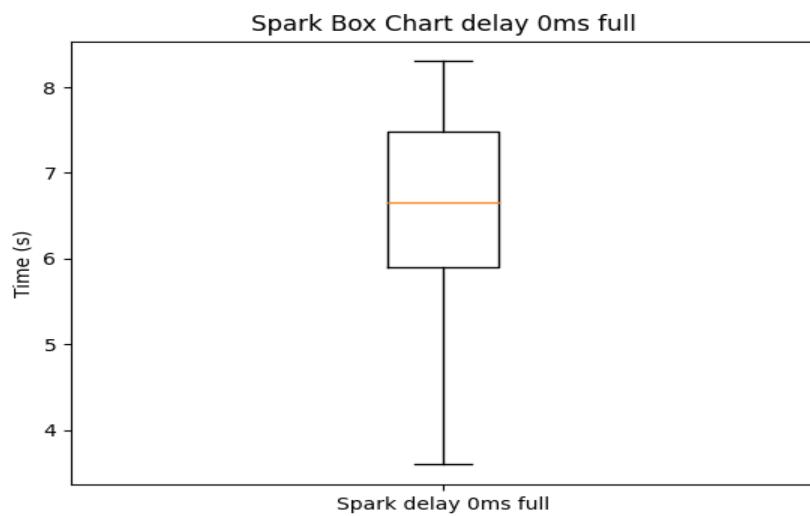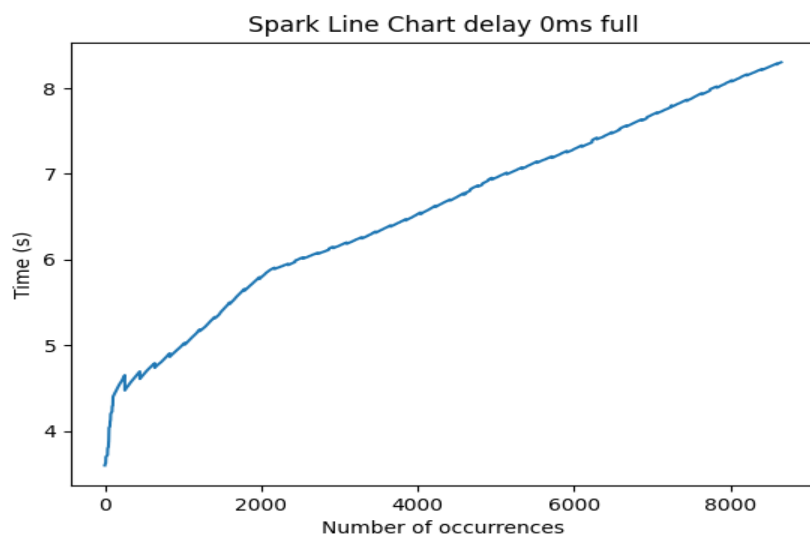
## Spark interquartile range

End Subtract Start: 1.585024999999999

## Spark mean

End Subtract Start: 6.583095917187139

## Average time for each sample

6.38599306037474    8.985836109183436    5.512386421466574

6.199196275734443    6.54589301411057    6.563030303030303

6.233072403423549    6.779739764052741    6.784357275040481

5.841454545454545

Spark Histogram delay 0ms full

Spark Line Chart delay 0ms full

Spark Box Chart delay 0ms full

Spark Histogram delay 0ms full (filtered)

Spark Line Chart delay 0ms full (filtered)

Air Quality Chart
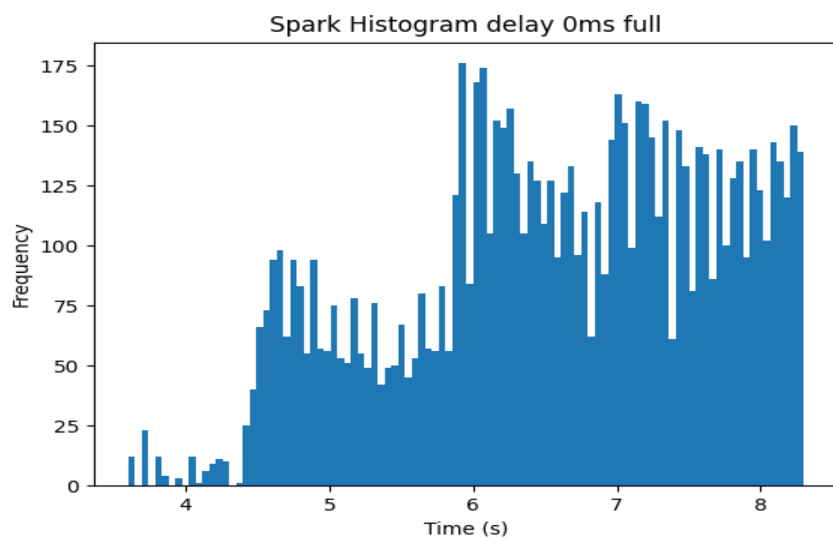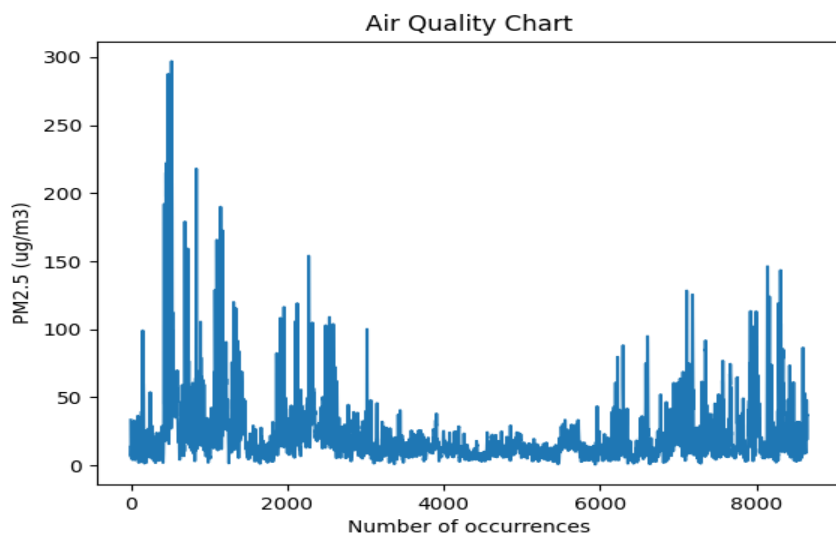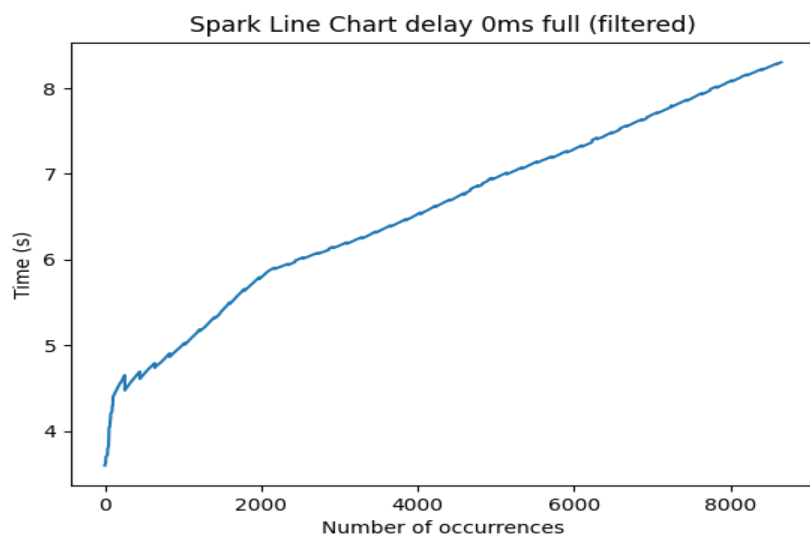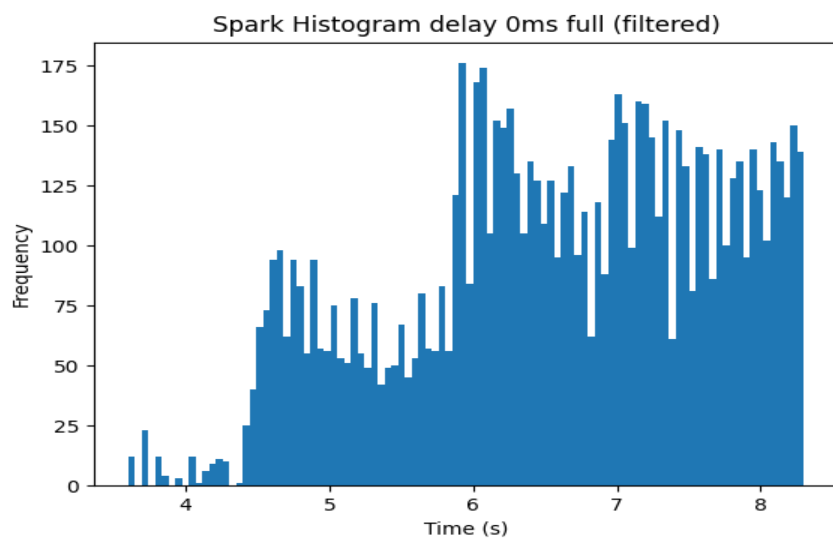
## Spark test setup (sparkDelay0Half)

Technology: Spark Structured Streaming

Producer Delay (Send next message): 0ms

Full data set (qty): 4380

Processed values (qty): 4313

Number of tests performed: 10

Start: Timestamp from Producer

End: Timestamp from Consumer

Unit: The results are given in seconds

## Spark median values

End Subtract Start: 4.9022

## Spark standard deviation

End Subtract Start: 0.5988743702616673

Lower Bound: 3.072662282212911

Upper Bound: 6.665908503782915

Number of data in the std range: 4300

Number of data outside the std range: 13

## Spark interquartile range

End Subtract Start: 0.9578000000000007

## Spark mean

End Subtract Start: 4.869285392997913

## Average time for each sample

| | | |
|---|---|---|
| 4.847940644562949 | 5.132411082773012 | 4.781291908184558 |
| 4.417317412473916 | 4.734175052167865 | 5.688908648272664 |
| 4.211232552747507 | 5.049682123811732 | 5.357816369116624 |
| 4.472078135868305 | | |

Spark Histogram delay 0ms half

Spark Line Chart delay 0ms half

Spark Box Chart delay 0ms half

**Spark Histogram delay 0ms half (filtered)**

**Spark Line Chart delay 0ms half (filtered)**

**Air Quality Chart**