

Benchmarks for Avro serialization libraries (hamba/Avro and linkedIn/Avro)

The benchmark was done to test the performance of the open-source libraries hamba/avro and linkedin/avro.

The following three schemas each different sizes (and complexities) were used to benchmark the performance.

- TripAccepted schema
- PassengerProfile schema
- TripCreated schema

Serialization Benchmark Results

1. hamba/Avro

- TripAccepted schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkSerializeTripAcceptedEvent-4      213572810          374.9 ns/op        224 B/op          2 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba    114.277s
```

- PassengerProfile schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkSerializePassengerProfileEvent-4  126882957          581.8 ns/op        656 B/op          2 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba    131.301s
```

- TripCreated schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkSerializeTripCreatedEvent-4      90625286          880.9 ns/op        688 B/op          2 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba    80.828s
```

2. lindkin/Avro

- TripAccepted schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkSerializeTripAcceptedEvent-4      11192362          6532 ns/op          3218 B/op          70 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin  79.899s
```

- PassengerProfile schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkSerializePassengerProfileEvent-4   5063221          14397 ns/op          6808 B/op          105 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin  87.527s
```

- TripCreated schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkSerializeTripCreatedEvent-4       3836871          19246 ns/op          12659 B/op          170 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin  93.061s
```

Deserialization Benchmark Results

1. **hamba/Avro**

- TripAccepted schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkDeserializeTripAcceptedEvent-4      190270062          387.6 ns/op          208 B/op           3 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba  112.162s
```

- PassengerProfile schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkDeserializePassengerProfileEvent-4  87681030          911.5 ns/op          648 B/op          10 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba  80.905s
```

- TripCreated schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkDeserializeTripCreatedEvent-4      66720304          1083 ns/op          608 B/op           4 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/hamba  73.545s
```

2. lindkin/Avro

- TripAccepted schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkDeserializeTripAcceptedEvent-4      66288807          1221 ns/op          1872 B/op          22 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin  82.391s
```

- PassengerProfile schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkDeserializePassengerProfileEvent-4   30413720          2940 ns/op          3179 B/op          47 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin  92.038s
```

- TripCreated schema benchmark

```
goos: linux
goarch: amd64
pkg: github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin
cpu: Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
BenchmarkDeserializeTripCreatedEvent-4       13525855          5915 ns/op          8099 B/op          63 allocs/op
PASS
ok      github.com/ShenalPelpola/go-avro-libraries-benchmark/linkdin  85.638s
```

Summary of the serialization results

	hamba/Avro (Average latency)	lindkin/Avro (Average latency)
TripAccepted schema	387.6 ns	6532 ns
PassengerProfile schema	581.8 ns	14372 ns
TripCreated schema	880.9 ns	19246 ns

Summary of the deserialization results

	hamba/Avro (Average latency)	lindkin/Avro (Average latency)
TripAccepted schema	374.9 ns	1221 ns
PassengerProfile schema	911.5 ns	2940 ns
TripCreated schema	1083 ns	5915 ns