Practica 9: Serialización de mensajes

Parte 1: Jaxb

A continuación, el resultado de correr la clase JaxbTest.java:

```
PROBLEMS 92  OUTPUT  DEBUG CONSOLE  TERMINAL                                  2: Java Process Console

Windows PowerShell
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PS D:\DEV\GIT_REPO\uc3m\my\uc3m-tecnSectorFinanciero\Lesson9> & 'C:\Users\asan1\.vscode\extensions\vscjava.vscode-java-debug-0.23.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk1.8
.0_161\bin\java' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\asan1\AppData\Local\Temp\cp_2g8p42e2eowpi15xx51xaro3z.jar' 'com.cnebrera.uc3.tech.lesson9.jaxb.JaxbTest'
12:34:48.885 [main] DEBUG com.cnebrera.uc3.tech.lesson9.jaxb.JaxbTest - [Practica 1] Size of referenceData instrument list 5
12:34:48.894 [main] DEBUG com.cnebrera.uc3.tech.lesson9.jaxb.JaxbTest - [Practica 1] Algorithm identifierTWAP
12:34:48.894 [main] DEBUG com.cnebrera.uc3.tech.lesson9.jaxb.JaxbTest - [Practica 1] Algorithm marketId1
PS D:\DEV\GIT_REPO\uc3m\my\uc3m-tecnSectorFinanciero\Lesson9>
```

Parte 2: Json

A continuación, el resultado de correr la clase JsonTest.java:

```
PROBLEMS 93  OUTPUT  DEBUG CONSOLE  TERMINAL                                  2: Java Process Console
Windows PowerShell
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PS D:\DEV\GIT_REPO\uc3m\my\uc3m-tecnSectorFinanciero\Lesson9> & 'C:\Users\asan1\.vscode\extensions\vscjava.vscode-java-debug-0.23.0\scripts\launcher.bat' 'C:\Program Files\Java\jdk1.8
.0_161\bin\java' '-Dfile.encoding=UTF-8' '-cp' 'C:\Users\asan1\AppData\Local\Temp\cp_2g8p42e2eowpi15xx51xaro3z.jar' 'com.cnebrera.uc3.tech.lesson9.json.JsonTest'
13:23:19.412 [main] DEBUG com.cnebrera.uc3.tech.lesson9.json.JsonTest - [Practica 1] Size of referenceData instrument list 5
13:23:19.431 [main] DEBUG com.cnebrera.uc3.tech.lesson9.json.JsonTest - [Practica 1] Algorithm identifierTWAP
13:23:19.432 [main] DEBUG com.cnebrera.uc3.tech.lesson9.json.JsonTest - [Practica 1] Algorithm marketId1
13:23:19.555 [main] DEBUG com.cnebrera.uc3.tech.lesson9.json.JsonTest - [Practica 2] Json Serializer [true]
PS D:\DEV\GIT_REPO\uc3m\my\uc3m-tecnSectorFinanciero\Lesson9>
```

Parte 5: Comparación de rendimiento

A continuación, para tomar los tiempos de rendimiento en manos se hizo con la JVM en caliente y se lanzaron 100 millones de veces las ejecuciones de serialización y deserialización por cada librería (jaxb, json, proto y kryo). Como resultado podemos ver a proto, la librería de Google como el ganador absoluto en pruebas de rendimiento, ya que es el que menos tarda en deserializar, serializar y el tamaño del objeto serializado es menor que los demás y con una diferencia importante correspondiente al sucesor en menor tamaño (Jaxb)

```
21:13:43.687 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [Practica 1] Size of referenceData instrument list 5
21:13:43.699 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [Practica 1] Algorithm identifierTWAP
21:13:43.700 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [Practica 1] Algorithm marketId1
21:13:43.787 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [Practica 2] Json Serializer [true]
21:13:43.848 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [Practica 3] Proto Serializer [true]
21:13:43.879 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [Practica 4] Kryo Serializer [true]

21:36:32.910 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerialization] meanJaxb: 7502
21:36:32.910 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerialization] meanJson: 4597
21:36:32.911 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerialization] meanProto: 224
21:36:32.911 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerialization] meanKryo: 1365

22:21:24.937 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceDeSerialization] meanJaxb: 17741
22:21:24.938 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceDeSerialization] meanJson: 6417
22:21:24.938 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceDeSerialization] meanProto: 1219
22:21:24.938 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceDeSerialization] meanKryo: 1541

23:31:20.723 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerializationAndDeserialization] meanJaxb: 26682
23:31:20.724 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerializationAndDeserialization] meanJson: 10750
23:31:20.725 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerializationAndDeserialization] meanProto: 1444
23:31:20.727 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSerializationAndDeserialization] meanKryo: 3080


23:54:42.143 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSizeSerialization] Jaxb: 388 bytes
23:54:42.144 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSizeSerialization] Json: 685 bytes
23:54:42.145 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSizeSerialization] Proto: 56 bytes
23:54:42.146 [main] DEBUG com.cnebrera.uc3.tech.lesson9.Measurement - [PerformanceSizeSerialization] Kryo: 1024 bytes
```