

Practica 11 CEP: Gestión de Liquidez y Órdenes para FX

Los mostrado a continuación detalla el flujo de actividades correspondientes a la ejecución del proyecto con StreamBase Studio

1. Se ejecuta el Proyecto de forma correcta con el siguiente trace:

```
(node install): TRACE: epadmin.exe install node nodedirectory=C:\Users\asan1\Documents\StreamBase Studio 10.4 Workspace\.nodes nodename=FX_ENGINE_FX_ENGINE.asan1 buildtype=PRODUCTION
(node install):      Installing node
(node install):      PRODUCTION executables
(node install):      File shared memory
(node install):      7 concurrent allocation segments
(node install):      Host name axxa
(node install):      Container tibco/sb
(node install):      Starting container services
(node install):      Loading node configuration
(node install):      Auditing node security
(node install):      Administration port is 17879
(node install):      Discovery Service running on port 54321
(node install):      Service name is FX_ENGINE_FX_ENGINE.asan1
(node install):      Node installed
(node install): command complete
(node start): TRACE: epadmin.exe servicename=FX_ENGINE_FX_ENGINE.asan1 start node
(node start):      Starting node
(node start):      Loading node configuration
(node start):      Auditing node security
(node start):      Host name axxa
(node start):      Administration port is 17879
(node start):      Discovery Service running on port 54321
(node start):      Service name is FX_ENGINE_FX_ENGINE.asan1
(node start):      Node started
(node start): command complete
(fragment deploy): TRACE: -
classpath C:\Users\asan1\Documents\StreamBase Studio 10.4 Workspace\FX_ENGINE\src\main\eventflow;C:\Users\asan1\Documents\StreamBase Studio 10.4 Workspace\FX_ENGINE\target\classes servicename=FX_ENGINE_FX_ENGINE.asan1 com.example.fx_engine.FX_ENGINE suspend=true
(fragment deploy): INFO: Deploy tool version: [TIBCO Distributed Transactional Memory Platform 10.4.3 (build 1904171609)] starting at [Wed Nov 20 16:32:11 CET 2019]
(fragment deploy): INFO: Node version: [TIBCO StreamBase Runtime 10.4.3 (build 1904180159)]
(fragment deploy): INFO: Starting com.example.fx_engine.FX_ENGINE on node FX_ENGINE_FX_ENGINE.asan1 ...
(fragment deploy): INFO: com.example.fx_engine.FX_ENGINE started on JVM com_example_fx_engine_FX_ENGINE0 on node FX_ENGINE_FX_ENGINE.asan1.
(fragment deploy): 2019-11-20 16:32:21.649000+0100 [15752:main] INFO com.tibco.ep.dtm.lifecycle: No user-defined Logback configuration, using product default configuration
(fragment deploy): 2019-11-20 16:32:36.666000+0100 [15752:Thread- ThreadPool - 1] INFO com.streambase.sb.sbd.net.StreamBaseHTTPServer: sbd at axxa:10000; pid=15752; version=10.4.3_a45545bc0fa864b6dd457e084eb653f6e2004e05; Listening
(container resume): TRACE: epadmin.exe schema=true delimiter=&& servicename=FX_ENGINE_FX_ENGINE.asan1 resume container
(container resume): command complete
```

2. Se entra por el flujo de orden manual y se verifica que se están agregando las ordenes de venta y compra:

StreamBase Studio 10.4 Workspace - FX_ENGINE/src/main/eventflow/com/example/fx_engine/FX_ENGINE.sbapp - TIBCO StreamBase Studio 10.4

File Edit Navigate Search Project EventFlow Insert Run Window Help

Manual Input Feed Simulations

MANUAL

Fragment: FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream: MANUAL

Symbol: EURUSD (string)

BidVol: 1000 (int)

BidPrice: 0.75 (double)

AskVol: 2000 (int)

AskPrice: 0.85 (double)

☒ Log to Input Streams

Clear Send Data

Output Streams Input Streams (x)=Variables JUnit

Fragment: FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream: (All Output Streams)

Time	Output Stream	Fields
16:37:18	BID_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:37:18	ASK_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85

Field Value

Create StreamBase Unit Test Clear

Debug Breakpoints

FX_ENGINE [EventFlow Fragment]

FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1) /FX_ENGINE/src/main/eventflow/com/example/fx_engine/FX_ENGINE.sbapp

FX_ENGINE.sbapp

This application is currently running at sb://axxa/

Diagram showing data flow from inputs (NOMURA, DEUTSCHE_BANK, MANUAL) through various processing nodes (TICK_MERGE, TICK_CLEANING, DISCARDED_TICKS, BID_PUTTER, ASK_PUTTER, PRETRADING_FILTERS, ORDER_SIDE_SPLITTER, BUY_MATCHING_ENGINE, SELL_MATCHING_ENGINE, BIO_TICKS_UPDATER, BIO_LIQUIDITY, ASK_TICKS_UPDATER, ASK_LIQUIDITY, BIO_MATCHED_LIQUIDITY, ASK_MATCHED_LIQUIDITY) to outputs (BID_UPDATER_OUTPUT, ASK_UPDATER_OUTPUT, REJECTED_ORDERS, ASK_LIQUIDITY).

Editor Definitions Parameters Dynamic Variables Typecheck Options Annotations Metadata

Clusters Clusters, Nodes and Engines

- asan1
 - FX_ENGINE_FX_ENGINE (started)
 - com_example_fx_engine_FX_ENGINE0

Properties

Name	Value
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Console Debug Shell

```
FX_ENGINE [EventFlow Fragment] FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1) /FX_ENGINE/src/main/eventflow/com/example/fx_engine/FX_ENGINE.sbapp
(node start): Host name axxa
(node start): Administration port is 17879
(node start): Discovery Service running on port 54321
(node start): Service name is FX_ENGINE_FX_ENGINE.asan1
(node start): Node started
(node start): command complete
(fragment deploy): TRACE: -classpath C:\Users\asan1\Documents\StreamBase Studio\bin\sbapp.jar
(fragment deploy): INFO: Deploy tool version: [TIBCO Distributed Transactional]
(fragment deploy): INFO: Node version: [TIBCO StreamBase Runtime 10.4.3 (build
(fragment deploy): INFO: Starting com.example.fx_engine.FX_ENGINE on node FX_E
(fragment deploy): INFO: com.example.fx_engine.FX_ENGINE started on JVM com.ex
(fragment deploy): 2019-11-20 16:32:21.649000+0100 [15752:main] INFO com.tibc
(fragment deploy): 2019-11-20 16:32:36.666000+0100 [15752:Thread- ThreadPool -
(container resume): TRACE: epadmin.exe schema=true delimiter=&& servicename=FX
(container resume): command complete
```

3. Se entra una order_entry de compra y se puede ver que fue rechazada debido inicialmente por el Symbol. Si cambiara el Symbol por EURUED entraría a rechazada por el volumen

StreamBase Studio 10.4 Workspace - FX_ENGINE/src/main/eventflow/com/example/fx_engine/FX_ENGINE.sbapp - TIBCO StreamBase Studio 10.4

File Edit Navigate Search Project EventFlow Insert Run Window Help

Manual Input Feed Simulations

ORDER_ENTRY

Fragment: FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream: ORDER_ENTRY

Symbol: EURUSD (string)

Vol: 2 (int)

Price: 0.75 (double)

Side: BUY (string)

☒ Log to Input Streams

Clear Send Data

Output Streams Input Streams (x)=Variables JUnit

Fragment: FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream: (All Output Streams)

Time	Output Stream	Fields
16:37:18	BID_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:37:18	ASK_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:41:30	REJECTED_ORDERS	Symbol=EURUSD, Vol=2, Price=0.75, Side=BUY

Field Value

Create StreamBase Unit Test Clear

Debug Breakpoints

FX_ENGINE [EventFlow Fragment]

FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1) /FX_ENGINE/src/main/eventflow/com/example/fx_engine/FX_ENGINE.sbapp

FX_ENGINE.sbapp

This application is currently running at sb://axxa/

Diagram showing data flow from inputs (NOMURA, DEUTSCHE_BANK, MANUAL, ORDER_ENTRY) through various processing nodes (TICK_MERGE, TICK_CLEANING, DISCARDED_TICKS, BID_PUTTER, ASK_PUTTER, PRETRADING_FILTERS, ORDER_SIDE_SPLITTER, BUY_MATCHING_ENGINE, SELL_MATCHING_ENGINE, BIO_TICKS_UPDATER, BIO_LIQUIDITY, ASK_TICKS_UPDATER, ASK_LIQUIDITY, BIO_MATCHED_LIQUIDITY, ASK_MATCHED_LIQUIDITY) to outputs (BID_UPDATER_OUTPUT, ASK_UPDATER_OUTPUT, REJECTED_ORDERS, ASK_LIQUIDITY).

Editor Definitions Parameters Dynamic Variables Typecheck Options Annotations Metadata

Clusters Clusters, Nodes and Engines

- asan1
 - FX_ENGINE_FX_ENGINE (started)
 - com_example_fx_engine_FX_ENGINE0

Properties

Name	Value
------	-------

Console Debug Shell

```
FX_ENGINE [EventFlow Fragment] FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1) /FX_ENGINE/src/main/eventflow/com/example/fx_engine/FX_ENGINE.sbapp
(node start): Host name axxa
(node start): Administration port is 17879
(node start): Discovery Service running on port 54321
(node start): Service name is FX_ENGINE_FX_ENGINE.asan1
(node start): Node started
(node start): command complete
(fragment deploy): TRACE: -classpath C:\Users\asan1\Documents\StreamBase Studio\bin\sbapp.jar
(fragment deploy): INFO: Deploy tool version: [TIBCO Distributed Transactional]
(fragment deploy): INFO: Node version: [TIBCO StreamBase Runtime 10.4.3 (build
(fragment deploy): INFO: Starting com.example.fx_engine.FX_ENGINE on node FX_E
(fragment deploy): INFO: com.example.fx_engine.FX_ENGINE started on JVM com.ex
(fragment deploy): 2019-11-20 16:32:21.649000+0100 [15752:main] INFO com.tibc
(fragment deploy): 2019-11-20 16:32:36.666000+0100 [15752:Thread- ThreadPool -
(container resume): TRACE: epadmin.exe schema=true delimiter=&& servicename=FX
(container resume): command complete
```

PRETRADING_FILTERS (Filter operator)

2 predicates:

- Output port #1: Symbol == 'EURUED' || Symbol == 'EURCHF' && (Vol >= 30 && Vol <= 150) && (Side == BUY || Side == SELL)
- Output port #2: true

Hold CTRL to toggle parameters/description view

Specify at least one predic...ng rows in the table below.

General Predicate Settings Concurrency

☐ Create output port for non-matching tuples

Predicates:

Outp...	Predicate
1	(Symbol == 'EURUED' Symbol == 'EURC...
2	true

Streams Functions

Input Output

input1 (4 fields)

- Symbol string
- Vol int
- Price double
- Side string

Constants (2)

Ahora se entra una orden de compra apropiada

ORDER_ENTRY

Fragment:

FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream:

ORDER_ENTRY

select...

Symbol

EURUED

(string)

Vol

30

(int)

Price

0.75

(double)

Side

BUY

(string)

☒ Log to Input Streams

Clear

Send Data

Output Streams

Input Streams

(x)= Variables

JUnit

Fragment:

FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream:

(All Output Streams)

select...

Time	Output Stream	Fields
16:37:18	BID_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:37:18	ASK_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:41:30	REJECTED_ORDERS	Symbol=EURUSD, Vol=2, Price=0.75, Side=BUY
16:45:12	BID_MATCHED_LIQUIDITY	Symbol=EURUED, Vol=30, Price=0.75, Side=BUY

Se entra una orden de venta apropiada

ORDER_ENTRY

Fragment:

FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream:

ORDER_ENTRY

select...

Symbol

EURUED

(string)

Vol

30

(int)

Price

0.75

(double)

Side

SELL

(string)

☒ Log to Input Streams

Clear

Send Data

Output Streams

Input Streams

(x)= Variables

JUnit

Fragment:

FX_ENGINE (FX_ENGINE_FX_ENGINE.asan1)

Stream:

(All Output Streams)

select...

Time	Output Stream	Fields
16:37:18	BID_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:37:18	ASK_UPDATER_OUTPUT	Symbol=EURUSD, BidVol=1000, BidPrice=0.75, AskVol=2000, AskPrice=0.85
16:41:30	REJECTED_ORDERS	Symbol=EURUSD, Vol=2, Price=0.75, Side=BUY
16:45:12	BID_MATCHED_LIQUIDITY	Symbol=EURUED, Vol=30, Price=0.75, Side=BUY
16:48:02	ASK_MATCHED_LIQUIDITY	Symbol=EURUED, Vol=30, Price=0.75, Side=SELL