Oracle Event Processing 12c
What's New?

An Oracle Informational Document
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Contents

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1.1 Introduction

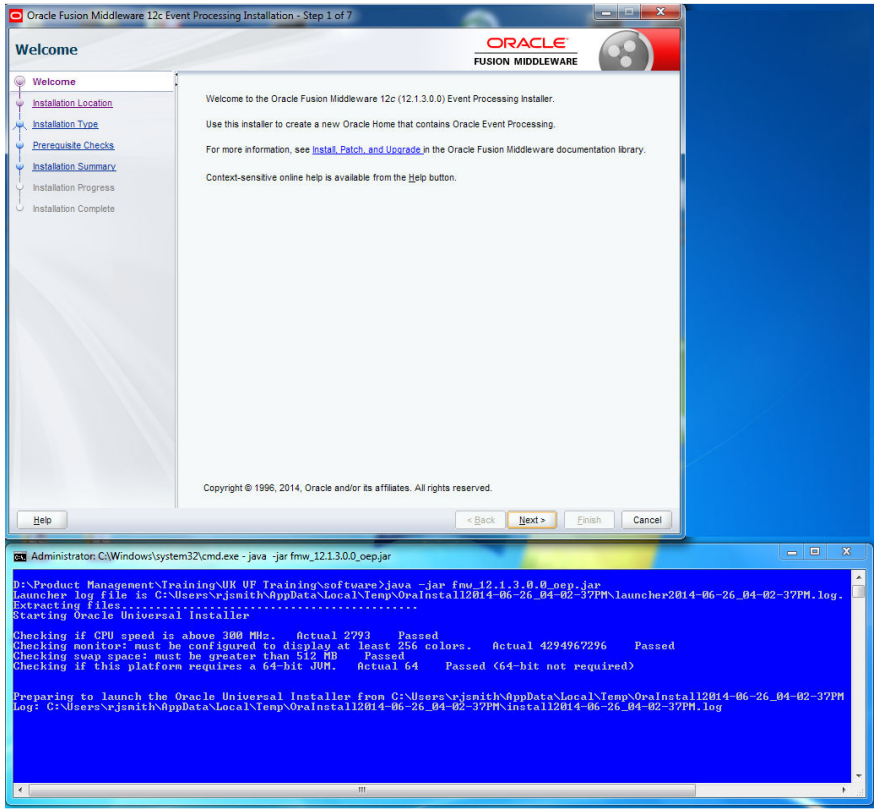
Oracle Event Processing 12c introduces a wealth of new features, new and enhanced integration opportunities and continues to surpass expectations in the realm of performance and scalability as the leading and strategic Event Stream Processing Platform from Oracle.

As you explore the many and exciting new capabilities of this innovative Event Driven technology here are just some of the major features to evaluate.

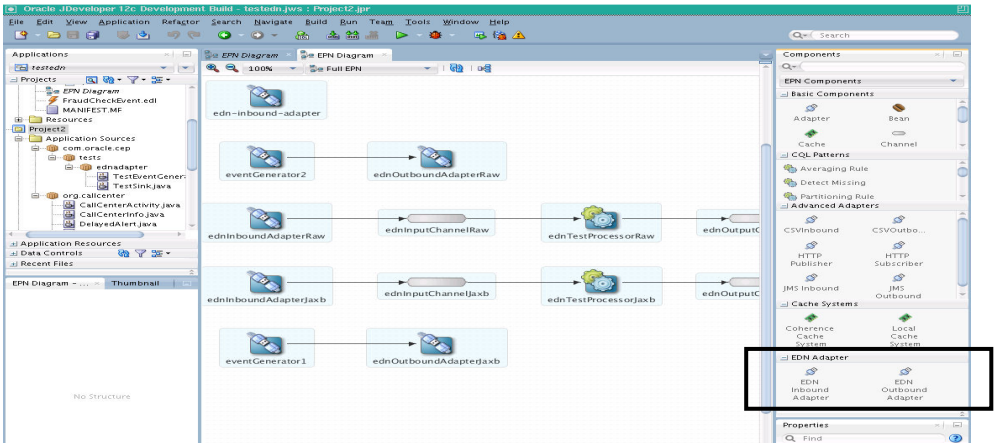
1.2 QuickStart Installation

The ability to get "up and running" quickly is always a desire for developers as they want to build their next generation event driven solutions, so spending hours watching and waiting for the product(s) to install on their computers, and then the seemingly endless configuration options needed is not really a positive approach.

So in this release we introduce the Oracle Event Processing QuickStart installer which has the same consistent "look and feel" as all of the other Oracle SOA Suite products and minimizes the process to automate the configuration requirements as much as possible and "lay down" the software as quickly and efficiently as possible.

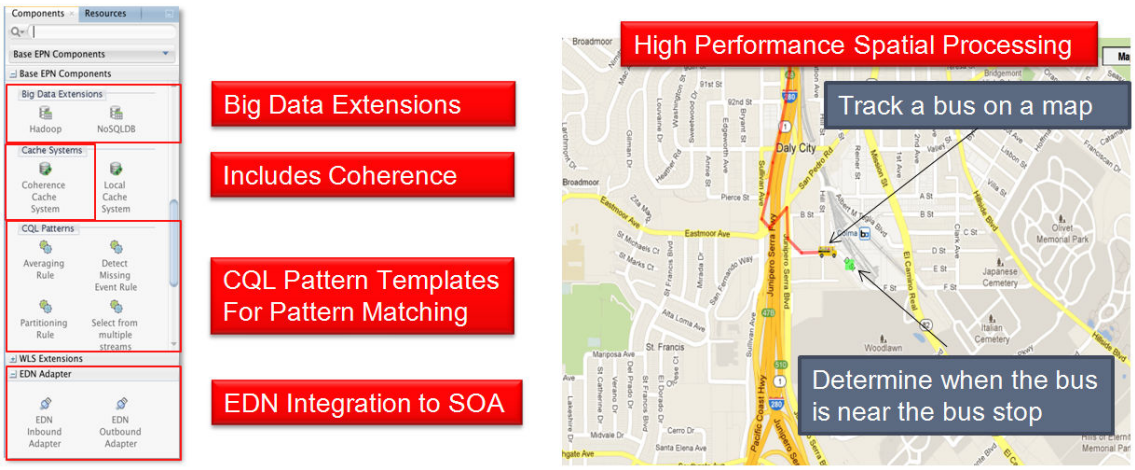


1.3 JDeveloper and SOA Suite



The latest JDeveloper for Oracle Event Processing offers a completely new development experience specially designed for all innovative, creative software professionals but also with powerful new features specifically for our Oracle SOA suite customers.

The new integrated development environment provided a visually impressive, component palette to simply paint and create your applications by dragging and dropping the required artifacts onto the canvass. With each Event node dropped, wizard driven prompting is shown to ensure the correct and required parameters are quickly defined. Another major new feature is the Event Delivery Network (EDN) event adapter nodes which provide that tight integration at runtime to SOA Suite composites and all other SOA components supporting the EDN.



Using the resource components window view, the Oracle Event Processing runtime server and application status can be easily reviewed and manipulated effectively. In summary, the JDeveloper for Oracle Event Processing provides a unique and powerful feature portfolio to build next generation event stream processing solutions for SOA Suite.

1.4 Enabling limitless extension for Real Time Event Pattern Analysis

To build an innovation eco-system around the Oracle Event Processing technology we have introduced the public Data Cartridge API framework which can encourage Oracle Partners and advanced customers to create reusable next generation CQL engine extensions for both general, industry and proprietary domain specific functionality.

1.5 Coherence Integration

In all of our past releases, the tighter integration of Coherence has always been a high priority and in this release, we have completed all of the major related features needed for any "in-memory" real time event stream processing application solution requirements.

- Support for compound keys and values
- Support for index declaration
- Push-down to Coherence

The product has now improved the integrated Coherence Cartridge, where previously, you were only able to join to Coherence using a single key whereas now, you can join using compound keys. Further, performance is significantly improved as part of the query is executed in Coherence rather than in the CQL engine. Overall, this allows Oracle Event Processing Applications to better retrieve data from Coherence, and is useful for scenarios where events need to be enriched with data from a data grid.

1.6 CQL Engine

We continuously strive to enhance the CQL (Continuous Query Language) feature-set that is executed in the heart of the technology to empower and support, filtering, aggregation, correlations and immensely powerful event pattern matching, enabling a customer to immediately identify a collection of "anything" that is happening or not happening and will provide an immediate business opportunity or a growing business threat. As the technology delivers on this goal, in this release we have provided some much talked about new capabilities.

- Sub-queries
- Pattern matching across streams
- Dynamic windows
- Java cast in CQL
- Better support for time intervals and other data types

The addition of Sub-queries provides better usability. Pattern matching across streams likewise provides better usability; this is a common scenario that could only be solved in the past with very complicated queries and views nested together. In the area of Dynamic windowing,

previously they had a fixed size, for example, the last 1 minute of events. This feature now allows a window size to be dynamically determined by a property in the event. This provides much more flexibility. Java cast in CQL allows the authoring of generic CQL that can deal with different types. For example, we use this internally to support the EDN integration. This allows you to author a single CQL that can handle different EDN types, and finally improved fault tolerance using archived channels allows a CQL processor to survive a shutdown/failure of the server, and re-start from where it left off without losing state.

1.7 The Spatial Factor

Using geo-spatial and geo-fencing is a very common scenario for event stream processing platform, Oracle has invested much time and resource in the past to provide a complete and powerful collection of Spatial features in its Oracle Database offerings. In recent releases of Oracle Event Processing there has been the iterative inclusion of some of these spatial features directly surfaced by the completely integrated Spatial Data Cartridge. This work has now been completed in this release with the additional capabilities where previously, an application was only able to geo-fence points to rectangles/squares. In other words, determine if a point is inside of a 2 dimensional rectangle. Now, an application can determine if any arbitrary polygon (points, rectangles, circles) is inside another polygon, even 3D polygons. This is useful when geo-fencing 3D volumes, such as buildings, mountains, as opposed to just surfaces.

1.8 Quick Development and Testing

The Oracle Event Processing tooling continues to evolve and now extends from the rapid application development, to easy IT operations management and soon in the domain of the Business users with advanced Business User Friendly capabilities.

In this release we have added features to further support this environment.

- **Application compiler**
  - Hides exposure to OSGi, validates artifacts, integrates with IDE, and command-line
- **Application and CQL testing**
  - Shell for dynamic EPN testing
  - JUnit4EPN (integrates Junit with EPN services)

These unique features allows you to quickly prototype EPN/CQL, for example, finding out what's the output of a particular input and query and run tests that involve sending input events and receiving output events to/from an Oracle Event Processing application in the context of a Junit test-case. In other words, this feature makes it easier to run validation tests and regression tests of applications, therefore improving productivity.

1.9 New Event End-Points

With the endless number of event sources and event sinks that constantly emerge from the various industries and companies, Oracle Event Processing has always provided the methodology to easily create your own event node adapters with it's easy to use SDK. For the most common connectivity demands the technology has also provide "out of the box" event node adapters for JMS, HTTP, TCP/IP Sockets for example, in this release we have continued this trend with a further collection of connectivity options directly supported in the product.

- QuickFix/J Adapter for Financial Services
- REST Adapter
- Distribution Adapter for out-of-process OEP application integration
- CSV Adapter (Much improved, file integration)

QuickFIX allows you to integrate to financial feeds, very convenient in that financial front office domain. The REST protocol integration allows you to receive events from browsers and to send events to REST-enabled services. The Distribution adapter allows an OEP application to send or subscribe to events to/from another OEP application that is running remote in another node of the cluster. In other words, this feature allows EPN to cross servers and therefore improving scalability. Finally the new CSV File adapter simplifies the usual testing simulation techniques in many cases implemented by developers to create and flow simulated event data into their innovative OEP applications.

1.10 Summary

This new Oracle Event Processing 12c (12.1.3) release extends the boundaries enabling the "art of the possible" in the next generation event driven applications, with a wide and varied collection of features and capabilities to empower developers in their continuing journey to build new business solution that challenge the conventional boundaries imposed by more traditional software platforms.

Oracle Event Processing Community Forum
https://community.oracle.com/community/developer/english/fusion_middleware/soa_%26_process_management/complex_event_processing

Oracle Event Processing on the Oracle Technology Network (OTN)
http://www.oracle.com/technetwork/middleware/complex-event-processing/overview/complex-event-processing-088095.html