Oracle GoldenGate 12c: Integrate Big Data Ed 1

Duración

Días: 3 Días
Horas: 18 horas

Descripción.

The course shows how to integrate more traditional relational databases with the current wave of new technologies such as Big Data (in particular, Hadoop) and the NoSQL databases MongoDB and Cassandra.
Hadoop is defined as an "Ecosystem" consisting of many components and technologies. The course covers several of the most important Hadoop components, such HDFS, HBase, Flume and Kafka. Students have access to a lab environment where they can configure data replication from an Oracle RDBMS (relational database management system) to the Hadoop system using the various Hadoop technologies, therefore validating in practice what learned at a more theoretical level from the instructor and the slides.
The NoSQL databases MongoDB and Cassandra are also extensively covered by the course. Again, lab practices are designed to give students a practical exposure to the concepts introduced by the instructor.
Other technologies explained in the course are the Generic JDBC Handler, which allows for integration with all systems accessible through a JDBC driver (like spreadsheets and flat files) and Pluggable Formatters, which allow for information stored in the Oracle GoldenGate trail files to be sent to Hadoop or NoSQL databases using the Oracle GoldenGate 12c Data Handlers.

A quién se dirige

- Configuration Consultant
- Data Warehouse Administrator
- Data Warehouse Analyst
- Data Warehouse Developer
- Database Administrators
- Database Designers
- System Integrator
- Technical Consultant

Requisitos

Required prerequisites

- Students should be familiar with the Oracle GoldenGate 12c product.
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Suggested prerequisites

- Oracle GoldenGate 12c: Fundamentals for Oracle (Suggested Prerequisite)
- While not required, a generic knowledge of SQL would help (Suggested Prerequisite)

Contenido

1. Oracle GoldenGate for Big Data 12c: Product Overview
    - Java Adapter and Oracle GoldenGate for Big Data: Compare and Contrast
    - Oracle GoldenGate Adapter Architecture - the Overall Framework
    - Oracle GoldenGate for Big Data
    - Oracle GoldenGate Java Adapter: Message Capture and Delivery
    - Configuring Message Capture
    - Message Parsing
    - Configuring Message Delivery
    - Java Handlers

2. Configuring and Using the Hadoop HDFS Handler
    - HFDS Overview
    - Hadoop Sequence Files
    - HDFS Handler Supported Formats
    - Relevant HDFS Handler Configuration Parameters
    - HDFS Partitioning
    - HDFS Metadata Change Events
    - HDFS Handler Best Practices
    - HDFS Handler Performance Considerations

3. Configuring and Using the Hadoop HBase Handler
    - HBase Overview
    - HBase Handler Functionality
    - HBase Row Key and Column Family
    - Relevant HBase Handler Configuration Parameters
    - HBase Handler Best Practices
    - HBase Metadata Change Events

4. Configuring and Using the Apache Flume Handler
    - Flume Overview
    - Flume Handler Setup
    - Relevant Flume Handler Configuration Parameters
    - Mapping Operations to Flume Events
    - Mapping Transactions to Operational Flume Events
    - Mapping Transactions to Transactional Flume Events
    - Metadata Change Events
    - Flume Handler Schema Propagation

5. Configuring and Using the Apache Kafka Handler
    - Kafka Overview
    - Kafka Core APIs and Handler Setup
    - Relevant Kafka Handler Configuration Parameters
    - Kafka Producer Configuration File
    - Kafka Handler Schema Propagation
    - Kafka Handler Best Practices
    - Kafka Handler Advanced Configuration

6. Configuring and Using the Cassandra Handler
    - Cassandra Overview
    - ACID Properties Versus Eventual Consistency
    - Cassandra Handler: Supported Data
    - How is it different from alternative upgrade methods?
    - Schema, Table, and Column Mapping
    - Cassandra Primary Keys and Handler Operation Processing
    - Relevant Cassandra Handler Configuration Parameters
    - Cassandra Handler Best Practices

7. Configuring and Using the MongoDB Handler
    - MongoDB Overview
    - MongoDB-Specific Considerations: Document Key Column
    - MongoDB-Supported Data Types
    - MongoDB Java Driver
    - Relevant MongoDB Handler Configuration Parameters
    - MongoDB Bulk Write
    - MongoDB Undo Handling

8. Configuring and Using the Generic JDBC Handler
    - JDBC Handler: Overview
    - JDBC Handler–Supported Targets
    - JDBC Handler Single Operation Mode
    - Relevant JDBC Handler Configuration Parameters
    - JDBC Handler Error Handling

9. Configuring and Using Pluggable Formatters and the Metadata Provider
    - Pluggable Formatters: Overview
    - Operation Formatters
    - Row Formatters
    - Formatter Configuration
    - Metadata Provider: Overview
    - Metadata Provider: When Is It Necessary?
    - Metadata Provider Types
    - Metadata Provider Configuration