

Java Developer Java Developer Java Developer - Xactly Las Vegas, NV Work Experience Java Developer Xactly - Denver, CO June 2013 to Present Technology: Java, Spring, SpringBoot, Tomcat, Hibernate, Oracle, Hadoop(Mapr), Spark SQL, Oozie, Agile Xactly produces multi-tenant SaaS software focused on Sales Performance Management. Sales compensation data has been collected since 2008 from a constantly increasing customer base. This large amount of data allows for anonymous comparative analysis between businesses to enable customers to improve their incentive programs. Developed a system to allow for ad-hoc or scheduled data transformations (ETL). At the time of initial development Spark, Hive and Drill were either lacking in functionality or production level dependability. There are 2 components to the system: Data Manipulation Library (DML) and Process Manager (PM). DML

- o Developed a lightweight java library on top of map reduce to eliminate the need for custom Java coding as ETL requirements fluctuate. The DML currently supports over 350 unique production queries with just 12 coded map- reduce jobs.
- o Provided basic SQL functionality (select, join, groupBy) in addition to supporting specific needs of Xactly ETL. Some custom capabilities are Interpolation, Extrapolation, Multi-key Joins and mixed sources of text files, parquet files and HBase including handling troublesome characters that disallow the use of standard readers.
- o Over 75% of executable code is in common classes that define overall job lifecycle and stages. Customizations are implemented in sub-classes by writing only those stages necessary allowing for easy maintenance and refactoring.

PM

- o Developed a SpringBoot application server to provide life cycle management, scheduling and monitoring of either ad-hoc or scheduled ETL processes.
- o Developed multiple REST resources enabling process control, browser based cluster navigation, Nagios alerts for monitoring and reporting of performance statistics.
- o Additional REST resources provide production support features for data interaction such as Spark SQL queries, conversion to Excel format, zipping and downloading of query results.
- o Process state and history is stored within an Oracle database leveraging basic hibernate.

A current project is to replace the above framework with a near real-time component that allows identical ETL to be performed in an incremental manner leveraging Spark SQL. This project has two main goals: per business incremental ETL with Spark SQL and backward compatibility support.

Spark SQL Coordinator

- o Developed a transformation orchestrator to coordinate concurrent ETL process requests that are initiated by customer action across hundreds of differently sized businesses causing difficulties with resource allocation.
- o Implemented a self-adjusting throttler that will delay incoming ETL requests due to reasons such as too many running ETLs, very large ETLs in process or too many frequent failures. As time goes on without incident the number of concurrent ETLs allowed will increase back to normal providing maximum parallelism with system stability.
- o Implemented dynamic configuration settings allowing altering of system parameters without restart including debug support for output to CSV files.

Backward Compatibility Support

- o Developed a SnapshotManager to take a periodic data snapshot across all businesses when there is no actively running ETLs, avoiding data corruption from active file writers.
- o Implemented a tracking algorithm where the number of running ETLs is monitored and snapshot requests are prioritized to give preference to ETLs completing. There is a reducing delay and increasing priority algorithm to eventually give preference to the snapshot request allowing for at least a snapshot every 24 hours. The taking of a snapshot is very quick so the overall delay is minimal but must be done with no running ETLs.
- o This snapshot is used to support multiple legacy requirements where data across all businesses is used concurrently.

Java Developer Lyris - San Jose, CA May 2012 to May 2013

Technology: Java, Spring, Hibernate, MySQL, Apache MQ, Hadoop(Cloudera), Hbase, Map/Reduce, Agile

As one of the developers I participated in building the next generation of products for Lyris, an email marketing company.

- o Implemented trigger based email dispatching leveraging Hadoop. Triggering events included changes to contact lists or external events such as the opening of other emails. Events are captured at the system endpoint and submitted to the evaluator via MQ. The desired "rule" for triggering such emails is maintained in a MySQL database and evaluated as a complex Hive query to determine if the existing set of changes or events should trigger outbound emails. A subsequent map reduce job examines the triggered events and organizes them in such a way to interact with the core workflow of the system to initiate the outbound emails. Hadoop was selected as the core evaluation engine to eventually support billions of contacts.

Java Developer Jasper Wireless - Mountain View, CA February 2011 to May 2012

Technology: Java, Spring, Hibernate, Oracle, Memcache Java Developer EBay Global Classifieds Group - San Jose, CA June 2008 to January 2011 Technology: Java, Oracle, JSON, Spring, REST, Proprietary Data Access Layer Java Developer Starview Technology - San Jose, CA March 2002 to March 2008 Technology: Java, EJB, JMS, XML, Oracle, JBoss, Tomcat, SOAP, UML, JSON Java Developer Deploy Solutions - Mountain View, CA August 2001 to January 2002 Technology: Java, EJB, XML, Oracle, Weblogic Java Developer Blackhog Inc - Sunnyvale, CA August 2000 to August 2001 Technology: Java, EJB, XML, Oracle, Weblogic, UML C++/ Java Developer Object Development Corp., New Jersey September 1991 to May 2000 Technology: C++, Java, Sybase, UML Clients: Merrill Lynch, Chase Manhattan Bank, J.P. Morgan, Credit Lyonnais, Smith Barney and Lehman Brothers. Bachelors of Engineering from Stevens Institute of Technology, Engineering Major, Hoboken NJ

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