Aaron West

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Software Developer

Work Experience

Streetpulse – Independent Contrator (DBA/backend/Linux sysadmin/web), Mar 2020-present (part-time)

- Imports (Shopify, Square, Clover), exports, web, Aug 2023-present

  Summary of my work per Git (git diff 833c3449 HEAD –compact-summary):

type	lines	description
web	2859	web dev/maint., including oauth token-capture callbacks
export	318	partner feeds
import	6321	loaders (Python/Rust/F# – using Oauth for all APIs)
sql	3472	related Postgresql functions and procs

- Import-custom, July 2023-Aug 18th
  - (F#) "fsimp": a program to convert a few "random" import formats to a previously-defined standard format. Defined five different import formats based on sample files, as separate modules in F#, for import of XLS, XLSX, or ZIP of text files (from Quickbook exports). (All converters output to my earlier-defined "SP2" format.)
- Lightspeed POS integration, Mar/Apr 2023.
  - (ColdFusion/CFML) Connects stores to Streetpulse + LightSpeed using OAuth.
  - (Python) Prototype extractor and convertor
  - (Rust collector - rewrote python) Combined extract and convert, added token refresh and retry functionality (etc).

- AWS Migration, July 2022 (POC) – [on hold]

  - Migrated 3 years of Postgresql data to a free instance of RDS (1GB) and a web server (also 1GB RAM). Learned AWS root user management, IAM and security group configuration, EC2 VM creation and administration, use of Amazon Linux 2, RDS, S3, CloudWatch, EBS administration, backup configuration (for the web instance and for RDS), configuration of firewall rules for FTP (Proftpd) (active and passive), use of AWS command-line tools.
- Database Migration (MS SQL to Pgsql), Nov 2021-Feb 2022

  - Migrated Streetpulse from Windows + MSSQL 2005 to a tiny Linux VM + Postgresql. Optimized to run in under 4GB RAM on a single core. Pgloader helped in initial migration. Converted MSSQL triggers and stored procedures to pgsql. Also configured Nginx, Apache Tomcat + Lucee (CFML), ufw firewall, and an email server (mailinabox, w/postfix). Also: Superfile data cleanup, new import, new home page, some CSS + HTML, fixed some broken CFML web pages and broken stored procedures, added "Superfile" (product data) import in Java +

CFML.

Avanade – Database Engineer; Sep 2019-Feb 2020

- Sep-Nov (MMSALES - MMC Manual Reporting): MS was changing accounting procedures to an accrual model. There was a need for some ad-hoc queries to fill in for some missing reports. Created a few SQL queries based on sparse specifications (field lists). Spent a bit much time tweaking my mock-up data, and spent far too long (about 3 weeks) studying about 15k+ lines of SQL, while waiting for good data.

- Dec-Jan (Premera): Attended onboarding sessions for about 5 weeks, waited for the dozens of permissions to be activated for access to various resources, and completed a few practice tasks. The last one was an SSIS integration practice project (an ETL procedure for copying CDC data from "Facets", for which I chose to use MERGE for the SQL portion of the logic.)

Mindtree – Power BI Developer; May 2019-Jun 2019

- Added visualizations to Power BI dashboards using datasets coming from Azure Data Explorer and Power Query. (eg. Learned to loop through a multi-part JSON response and concatenate the results, in Power Query/"M".)

Infosys, Redmond, WA – Tech Lead – Jun 2017-Oct 2018

- BI/Reporting: Optimized a Power BI dashboard by converting Tabular to import model. Semi-automated this process with an F# script.
- Automation: Created an F# app to collect query and connection information.
- Created a PowerShell script to create a VBA script in an XLSX to unprotect spreadsheets

Microsoft (Valente), Redmond, WA, – BI Data Analyst – Oct 2016-Jan 2017

- BI/cube work: Rewrote/fixed/productionized ETL for a cube (using SQL MERGE instead of SSIS), then cleaned up the cube, removing some redundant dimensions.

- Web scraper/Power BI dashboard for click-through rate metrics: Scraped code off a (Windows) hard drive using Linux. Optimized SQL. Converted C# code to F# and added archiving of scraped pages to Sqlite for quicker testing of the html-parsing logic.

Caradigm (Harman), Bellevue,WA – MS BI Dev. – Mar 2015-Mar 2016

- SSAS: Created and optimized calculations for "QI" cube.
- F#: Wrote benchmarking and verification scripts for QI cube
- SSAS: Helped build initial UFA claims cube, adding calculations as-needed, evolving the design by adding dimensions and measure groups to meet changing requirements. Made recommendations for improvement of MDX for revised UFA cube, such as tupling measures with dimensions to reduce the number of physical measures.
- Helped content developers, BI developers, and implementations engineers with various questions about MDX (eg. performance/efficiency)

TCS (Tata Consultancy Services), – Data Analyst – Oct 2012-Jan 2015

Multiple assignments, as listed below

General Reinsurance, Stamford, CT – MS BI Developer – Oct-Dec 2014

- Implemented custom rollups and many-to-many currency conversion for an Analysis Services proof-of-concept. Built and optimized MDX cell-calculations with scoped sub-cube assignments. Used usage-based optimization for aggregations. Developed comprehensive use cases in Excel with complete SQL to compare with MDX. Developed testing scripts in IFsharp (IPython) notebooks. POC was published to Sharepoint using Excel Services. Presented and delivered the cube to the client.

Russell Investments, Seattle, WA – Data Analyst – May 2013-Aug 2014

- SSRS: Created export reports (TSV/CSV/pipe)
- SSRS: Migrated reports from Crystal
- C# ASP.NET webforms: web service exporter
- SSRS/SQL: Resolved report tickets.
- F#: SSRS to PDF and SSRS deployment tools
- SQL: Data population procedures for a new reporting application

AT&T, Bothell, WA – Data Analyst – Oct 2012-May 2013

- The role mostly involved fixing Perl scripts and resolving ad-hoc (Oracle) query requests from a ticketing system. Also generalized multiple report scripts into a single Perl script which emails the result as an Excel spreadsheet. One query required a 42-table join (one of which required a subquery to avoid filling the temp space.) (The lack of write access to the Oracle database was regrettable, since the database was lacking proper indexes for this query.)

Expedia (Smartek21), Bellevue, WA – SQL SDET – Dec 2011-Jul 2012

- Hired to develop testing procedures for certain databases, but it seemed not clear what needed testing. So first I wrote a set of histogramming stored procedures.
- Eventually, I proposed rewriting some population batch processes that used BCP, and made the unfortunate choice to use linked servers, initially. The DB2 linked-server was unreliable, so I implemented retry logic for timeouts. The process would retrieve all ROWID values for each batch, as that was relatively quick and retrieving the full rows was resumable, once the ROWIDs had been saved. The next version (in C#) used tab-delimited (TSV), for which I implemented a regex trick to fix invalid rows (too many tabs), since the person who wrote the export was slow to fix.. Wrote a test harness in F#, but got a bit carried away on this task, as it grew a bit more complex than expected.

Vivaki, Seattle, WA (Mindspring) – DB Engineer – Dec 2010-Apr 2011

- Talend: FTP to AWS S3 utility, which copied and validated data. (Also wrote a faster version in C.)
- SSIS: Migrated ETL from SQL 2000 DTS to SSIS 2008 (MSFT to AWS)

Microsoft (Compucom), Redmond, WA – DB Engineer – Feb-Jun'08

- Several reports (SSRS), web front-end (C#), data collection (webtrends)

RIPL (Volt), Seattle, WA – Software Engineer – Dec'06-Sep'07

- Site metrics reports (aggregation along a tree of invitations) (SSRS)

Streetpulse – database & web developer – Jan 2004-Dec 2006

- Perl: Created import, export (feeds), "pinger", replicated backup. SQL: optimized queries and indexes, created cached aggregates using Linux,Cygwin,ssh, rsync,proftpd, wrote SPUpload to send file changes via FTP or SOAP using C++ & ATL, wrote upload web services in VB with example clients in VBScript, Perl and C#, wrote SPScan for collecting sales in C# using Sqlite. Build several computers and performed migrations, including virtualization: used Xen (OpenSuse), KVM (Proxmox), Hyper-V (Win2008R2), VirtualBox (Ubuntu 18.04), KVM.

Amazon.com, Seattle, WA – Software Engineer – Jun 1999-Apr 2003

- Exchange.com (and Bibliofind) sold to Amazon, April 1999

- Maintained Bibliofind ('99-'01): MS-Access billing, customer support, changes to WebScript for security.

- Helped migrate Bibliofind's customers to zShops, wrote an Inventory control application for a partner, identified memory leaks and query inefficiencies. (C++/Oracle). Wrote scripts to archive/delete old files, monitor & bounce java processes (bash/Perl).

Exchange.com, Cambridge, MA – Software Engineer – Jan-Jun 1999

- Bibliofind sold to "E-Niche" (Exchange.com) in Jan, 1999, bringing me with it as the lead (and only) developer.

- Migrated Bibliofind to new servers, answered customer support issues, ad-hoc queries, script debugging, made modifications for security concerns.

Bibliofind – Independent Contractor – Mar'97-Jan'99

- C++: Importing, email, nightly indexing, "want matching"

- Thunderstone webscript: Search, shopping basket, send order emails

Ikon, Bloomfield,CT – Computer Programmer – May'96-Mar'97

- Visual Basic : A "report viewer" for a communications app
- Excel automation (mortuary): an accounting workbook with posting macros
- Excel automation: a spreadsheet that pulls data from MSSQL
- VB/C++/Texis/MSSQL: Bibliofind's import,search,"want matching"

Moore Medical, New Britain, CT – PC Specialist – Jun'94-May'96

- Reporting and analysis: used Excel/Access for price list management, sales reporting, charting and budgeting. Automated AS/400 download and import to Access using RtoPC and SNR (search-and-replace, to fix invalid CSV formatting).

Skills

- Databases: MS-SQL, SSAS (MDX,DAX), Postgresql, Oracle, DB2, MySQL, Sqlite
- DB libraries: Sybase dblib,ODBC,ADO,ADO.NET,Perl DBI,PG psycopg2,others

- ETL: SSIS, Talend, F#, Perl, Haskell, Python
- Reporting: SSRS, Power BI, Excel
- Primary/Preferred languages: Rust, Scala, Python, F#, C#
- Scripting: Perl, Python, Julia, Javascript, PowerShell, bash, VBScript
- MS-Office: Excel (VBA macros, functions, pivot tables)

Education and self-education

- Manchester Community College, Engineering Sciences, 51 credits
- Certificate: "Functional Programming Principles in Scala", Nov 2013
- Brainbench(2005): MSSQL2k:3.48/SQLadmin:4.13,C:3.71,Asm:4.66,SQL:3.49, SQLFundamentals: 4.53, ColdFusionMX: 4.31, Perl: 3.66, Linux Admin: 3.43;

2012. SQL2008 Programming: 4.67

Publications

- 4 bit-twiddling hacks in TSQL, plus a query-performance diagnosis tool: https://www.sqlservercentral.com/search/aaron+west