

Eric Radman

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Jun 2010 – Present D. E. Shaw Research, LLC

Database Administrator, *Endicott NY*

Professional Experience

Built a service for monitoring database availability characteristics such as connect times, recovery status, and disruption of idle connections.

- » Python
- » libpq, NOTIFY

Reorganized PostgreSQL administration around a set of scripts after finding that the learning curve with Salt was prohibitive for most other team members. Database relationships, major versions were defined in a single YAML file. Core logic was implemented using a utility written in Python, and special policies were implemented using shell case statements.

- » sh
- » Python
- » pgBackRest

Established database roles for all Anton services and created a schema layout using minimum set of privileges for each role required. Institutionalized a mechanism for retrieving database credentials, and adapted test harnesses to use the common schema definition.

- » PostgreSQL

Implemented a test harness for cluster provisioning system by deprecating legacy tooling that relied on MySQL. A SQLAlchemy-derived schema which was used to run tests on ephemeral PostgreSQL instance. Accomplished progressive migration from MySQL by periodically refreshing a PostgreSQL instance for read-only services to use.

- » MySQL
- » SQLAlchemy
- » Jenkins
- » Gerrit

Fully automated deployment of PostgreSQL databases using Salt. Database profiles defined such features as installation of custom extensions, proxy configuration, and point-in-time recovery. Administrative tasks such as major version upgrades, hot failover and status queries were also standardized using Salt execution modules.

- » Salt
- » PostgreSQL
- » PITR
- » PgBouncer

Creator of a mobile-friendly web interface used for collecting information on the current status and historical records of Anton2. Leveraged the advanced capabilities of PostgreSQL by spinning up a temporary database to run unit tests.

- » Tornado
- » Virtualenv
- » JavaScript

Release engineer for Job Engine and Desjob, the command-line tools used to create and start simulations on Anton and Anton2. Automatic failure recovery and data-driven error classification enabled simulations to survive faulty hardware or disruptions in access to network resources. Provided stable releases by

- » Python
- » SQLAlchemy
- » Slurm

maintaining multiple layers of verification, including frequent design discussions, code review, automated system tests and nightly replay of simulations.

Primary author and maintainer of AMSv2, an application server used to provide automated and administrative control over the logical and physical components of Anton2. Improved performance characteristics over time by restructuring service methods around tests that verified that the object/relational mapper was generating correct queries. Handled all aspects of database server maintenance, from schema migrations to hardware upgrades.

- » Django
- » PostgreSQL
- » JSON-RPC
- » Git

Conducted more than 130 phone screens and in-house interviews for positions in Operations, System Software, System Administration, and Scientific Software. In all cases great care was taken to produce an essay that described a candidates potential and fit for a given position.

Mar 2009 – Jun 2010 D. E. Shaw Research, LLC

Systems Contractor, *Endicott NY*

Key developer for AMS, an application server used to provide record keeping, administrative control, and state used by running simulations and the logical components of Anton. Time to deliver new features radically reduced through the introduction of a full set of unit tests. Provided Operations with a responsive user interface for visualizing submachine and queue utilization.

- » Django
- » PostgreSQL
- » Cairo

Assisted with maintenance of 1500-node Linux cluster by routinely diagnosing and replacing faulty hardware. Facilitated the installation and functional testing of Eighteen 512-node Anton supercomputers.

- » Anton
- » CentOS

Oct 2001 – Jul 2009 Telecommunication Enterprises Inc.

Network Administrator, *Clarks Summit PA*

Handled all technical aspects of running a regional ISP, teispint.com. Provided support and generated documentation for 8 dedicated T1/ISDN accounts, 1300 dial-up users, 2100 e-mail addresses. Executed a migration of all services and equipment to a new collocation facility during an acquisition of *ezaccess.net*.

- » NetBSD, OpenBSD
- » Apache
- » BIND, Exim

Enabled the business office to provide support to e-mail and dialup customers by implementing a complete account management interface along with tutoring on basic troubleshooting techniques using command line utilities.

- » PHP
- » PostgreSQL

Designed an in-house ticket management system aimed at improving visibility on outstanding issues. Substantially improved the effectiveness of a small team by making progress visible.

- » Python
- » Psycopg

Provided on-site consulting in voice and data networking to an average of

sixty companies each year in Eastern Pennsylvania and the Southern Tier of New York.

Formal Education

1985–1997 Grades 1–12, Home Schooled

Certifications

2013 BSD Associate recertification
Philadelphia PA

2009 BSD Associate from the BSD Certification Group
Washington D.C.

1997 Troubleshooting, Maintaining, and Repairing Personal Computers
Open book exam

Talks and Presentations

Overcoming First Principles, A guide for accessing the features of PostgreSQL in test-driven development
PGConfUS , April 19, 2016

Learning Through Composition, A study in building modern Unix tooling
NYCBUG , January 13, 2015

Knowledge Sharing and Open-Source

2018 – Present esrportraits.com

Employed common web technologies to assemble a clean and responsive site for sharing my experience with analog photography. Built the interactive web interface *image-review* for previewing a set of images with a user-adjustable crop.

» D3.js
» HTML, CSS

2018 – Present scriptedconfiguration.org

Project page for *rset(1)/pln(5)*, an approach to configuring remote systems using common scripting languages and tools.

» C (BSD, POSIX)
» Ruby
» awk, sh

2014 – Present eradman.com/ephemeralpg

Project page for *pg_tmp(1)*, of a tool for quickly spinning up temporary PostgreSQL databases. Crafted to give unit tests full access to the capabilities of the database. Later *ddl_compare(1)* was developed to enable comparisons of complex schemas.

» Ksh, Bash
» DDL
» Mercurial

2012 – Present eradman.com/entrproject

Project page for *entr(1)*, a cross-platform tool for running arbitrary commands when files change. Crafted to promote rapid feedback and automated testing.

1999 – Present eradman.com

Tutorials and commentary on programming, networking, and administration of Unix-like systems.

- » C (BSD, POSIX)
- » kqueue, inotify
- » Make

- » Haml
- » OpenBSD
- » OpenSMTPD