

Ian Dillon

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EDUCATION

EAST TENNESSEE STATE

MS IN COMPUTER SCIENCE

2012 | Johnson City, TN

Thesis: "Connotational Subtyping and Runtime Class Mutability in Ruby"

Member: Upsilon Pi Epsilon (CS Honors)

BS IN COMPUTER SCIENCE

2004 | Johnson City, TN

LINKS

GitHub: [ian-d](#)

Website: [ian-d.com](#)

PRESENTATIONS

COHESION 2017, BALTIMORE

- Running Ellucian Middleware in Docker
- Building Declarative Cloud Infrastructure with Terraform
- Replacing Pro*C in JobSub with Ruby

TBR SUMMIT 2016

- Git 101-ish
- Getting Slim: Building an Agile, Mobile-First, Banner Integrated, and Highly Available Portal on Open Source Software
- Configuration Management with Puppet
- Centralized Logging and Analysis Using the Open Source ELK Stack

TBR SUMMIT 2014

- Banner & Fabric: Scripted, Fast Password Changes
- Banner & Git: Distributed Source Control In Banner
- Ruby & Banner Jobsub: Replacing Pro*C

EXPERIENCE

EAST TENNESSEE STATE UNIVERSITY

SENIOR DATABASE ADMIN, INTERIM LINUX ADMIN | APRIL 2014 – PRESENT

Initial primary responsibilities were to install, maintain, and plan databases, middleware servers, and application infrastructure supporting the Ellucian Banner ERP system and ancillary applications (**Oracle DB 11g/12c**, **Data Guard**, **Oracle FMW**, **Weblogic**, etc). I have expanded the duties of the position to include all management of **Puppet** and **Amazon Web Services** resources. Some further advancements to the initial position are:

- Currently leading on-going migration of on-premise Banner infrastructure to Amazon Web Services. This includes creation of siloed development and production environments using declarative infrastructure with **Terraform**. Total machine count is being reduced by consolidating middleware (Tomcat, Weblogic, OHS, Apache, nginx) into **Docker** containers running on **EC2 Container Service** (ECS) clusters. The same ECS clusters are also used for custom ETL batch processes in Ruby and Python. Monitoring via SNS, **Lambda**, and Slack notifications for CloudWatch metric and service events.
- Worked in a three person team to develop a custom CAS-enabled, Banner-integrated, and mobile responsive student and employee portal to replace Luminis 5 using open source software, all running on a highly-available architecture based on **HAProxy**, **Redis**, and **MariaDB Galera Cluster**.
- Introduced **git** for change tracking in all Banner ERP instances. Later transitioned to **GitLab CE** as more group projects moved away from **TFS**. Implemented **Continuous Integration** runners to build and deploy some applications from source control.
- Implemented **Puppet** (plus **Hiera** and **r10k**) to manage ERP Linux servers, standardizing base configurations, monitoring via **Icinga**, and centralized logging with **Logstash** (visualized with **Kibana**). This includes authoring custom modules for deployment of internal and ellucian middle-tier applications.
- Used **Python** and **Fabric** to codify and automate service password changes across 15 products, 32 hosts, and AWS services. This brought a 2 hours manual process down to a repeatable 10 minute process.

PROGRAMMER / ANALYST 3 | OCTOBER 2007 – MARCH 2014

Lead analyst in support of the university's Financial Services division, writing custom tools and reports as necessary. Led multiple development projects from requirements gathering through (continued) maintenance.

- Began team transition to **C#**, **ASP.NET MVC**, and **LINQ**.
- Introduced **Ruby** as an alternative reporting language and created the **banner_jobsub** gem.

PROGRAMMER / ANALYST 2 | APRIL 2007 – SEPTEMBER 2007

Developed, maintained, and tested university-wide web applications (**VB .NET**, **ASP.NET**), reports (**Pro*C**), ad-hoc and scheduled data extracts (**PL/SQL**, **T-SQL**), and customizations to university systems.

BANC INTRANETS

SOFTWARE ENGINEER | JANUARY 2005 – APRIL 2007

Lead developer on BancWorks, a VB .NET and ASP .NET CMS targeted at small financial institutions.

SKILLS

This is a short list of technologies, languages, products, etc. that I have recent experience with, meaning I have a production-deployed project written in or utilizing them. Items that I am more confident or closely familiar with I have marked with *:

Languages: Ruby*, Python, C, Java, VB .NET, C, JavaScript, PHP, Bash/Sh (I am comfortable reading, debugging, and possibly patching in a number of languages not listed.)

Operating Systems: CentOS*, RedHat*, OEL, containerization with Ubuntu, Debian, Alpine

Databases, KV Stores, etc: Oracle*, MySQL/MariaDB*, PostgreSQL*, Redis*, Memcache, Elasticache

PROJECTS

GRIPSWEAT

gripsweat.com

A searchable archive of vinyl record sales & auctions, intended for somewhat niche collectors and as a pricing resource for dealers. Includes images, accepted final prices, and audio clips. Currently contains 9 million+ entries with 450k+ audio clips.

- Uses **Ruby on Rails**, **PostgreSQL**, **Sphinx**, and asynchronous indexing and transcoding communication via **Amazon SQS**.

BANNER_JOB SUB

ian-d/banner_jobsub | rubygems.org/gems/banner_jobsub

A **Ruby** gem to simplify writing custom jobs in Ellucian's Banner ERP. Provides a much simpler and more powerful base for development than the delivered Oracle **Pro*C** libraries.