Eben Roux

C# / JavaScript

Full-Stack Developer

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Skills

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About

Ebenaëser Roux (Eben)

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c# javascript domain-driven-design service-bus shuttle messaging sql-server cqrs vue reactjs azure aws containers

I've had a passion for software development ever since I wrote my first program using BASIC, on a Commodore VIC 20, as a 12 year old in 1984.

My professional career started in 1995 and I have worked in various industries developing business software. I believe that software has to be useful and fit-for-purpose since there are probably going to be people using it for a good couple of hours a day, and one would like to avoid any frustrations.

I have ample knowledge with database design. However, I have moved to a more domain-driven approach and I consider a data store as simply that, and that no processing should be performed in a database.

I do not subscribe to any particular architectural style as I tend to think in terms of "concerns" and autonomous business components that can be deployed and versioned individually. This is what is largely now referred to as Microservices, where a bounded context represents that thinking quite nicely.

In order to ensure scalability and stability I have found messaging, along with a supporting event-driven architecture, to be quite useful.

I try to steer clear of vendor specific cloud technologies in favour of implementations that can be deployed to any cloud platform. The most convenient approach to attain this is containerization.

Experience

Business Science Corporation / Information Technology Lead

FEB 2024 - PRESENT, SANDTON, JOHANNESBURG

c#, sql‑server, shuttle, docker, azure, devops, terraform

My role was to integrate various systems, and automate relevant process flows, within BSC.

<u>Notable Achievements:</u>

- Developed Azure cost / metric extraction which resulted in visibility of costs via a Power BI report.
- Scheduling endpoint
- Correspondence endpoint / web-api:
  - Using Postmark to send e-mail
  - Using Teams to send notifications
- Workflow endpoint to track various processes
- Automated integration endpoint
  - Onboarding / offboarding
  - Leave tracking
  - SharePoint archiving
- Various integrations:
  - Azure Entra
  - PeopleHR
  - Acumatica
  - Wrike
  - Keeper
  - Qerent (in-house software) for which I developed a Web-Api
  - Zoho
  - SharePoint
- A SharePoint sync agent that copies SharePoint files to Azure Storage containers (will be open-sourced).
- Performance review system.
- Unified front-end using Vue 3, Vuetify 3, and Tailwind CSS 4.
- Used Terraform to commission Azure resources.

Touchsides / Senior Software Developer

NOV 2021 - JAN 2024, ILLOVO, JOHANNESBURG

c#, sql‑server, shuttle, docker, Azure

Responsible for development on the C# back-end for an Android POS system which included Web-APIs and messaging endpoints. The solution made use of Azure Sql Server databases.

Also worked on the front-end portal that was written using React.

<u>Notable Achievements:</u>

- Introduced containerization by initially using Azure Container Apps, and then moving to Azure Kubernetes Service.
- Refactored classic DevOps pipelines to `yaml`.
- Involved in CRM integration performed by Azure Functions that had to be upgraded to isolated mode and subscribed to Azure Service Bus topics.
- Worked with a DevOps vendor to move our Azure resources from the "West Europe" region to "South Africa North". This transition was quite a smooth one and the ~11,000 devices continued functioning uninterrupted.
- Worked with an infrastructure vendor to investigate self-hosted

options in order to move to a hybrid hosting model (Cloud/On-prem).
- Configured managed file transfer virtual machine to allow one of the large banks to send and receive lead management data.
- When our Director of Technology left in February 2023 I was appointed as acting Director of Technology (System Architecture) from March 2023 to August 2023, when the new managing director was appointed.

Amazon Web Service / Cloud Support Engineer

DEC 2020 - NOV 2021, CAPE TOWN

I was placed in the Developer and Mobile Services profile and, as such, my responsibilities included assisting customers with cases on the following services:

- Simple Queue Service
- Simple Notification Service
- Lambda
- API Gateway
- Pinpoint
- Step Functions
- Connect (Contact Center)
- Amazon MQ

As a quality champion I vetted correspondences for new hires and I was also involved in interviewing.

Johannesburg Stock Exchange (EQ Plus) / Specialist Developer

JAN 2019 - NOV 2020, SANDTON, JOHANNESBURG

c#, sql-server, shuttle

As a member of the monitoring team network packets (TCP/UDP) were captured and reported on. The TCP streams had to be built and, depending on the financial protocol used on the particular, messages would be decoded and serialized to a GZipped file.

<u>Notable achievements:</u>

Fixed TCP stream assembly that had been incorrectly implemented which subsequently required the reprocessing of messages since the system inception. This was roughly 3 years of data.

Removed redundant storage of empty buffer bytes on raw packets which resulted in a saving of about 50% disk space. The daily raw packet compressed files were gigabytes of data so that made a difference.

Implementation of monitoring / dashboard system (using a CanJS front-end, Sql Server data store, .Net Core web-api) for the relevant servers:
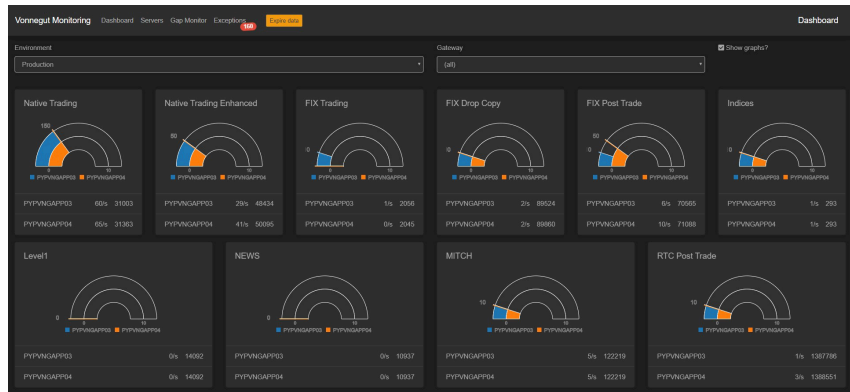
- Message throughput rates per second
- Network adapter availability through the WinPCap driver
- Data file creation to ensure correct system functioning

Refactored a gap monitor that subscribed to UDP packets and picked up gaps in the sequence. These gaps were integrated into the above-mentioned monitoring front-end.

In August 2019 I moved to the surveillance team where we have been using Azure DevOps since December 2019. I assisted the team in moving our source control over to Git.

Sebata / Developer

MAR 2016 - JAN 2019, SANDTON, JOHANNESBURG

webforms, entity-framework-6, sql-server, shuttle, domain-driven-design

I started out contracting through EQ Plus / Atos to Sebata and then contracted directly to Sebata from 1 August 2016.

I was responsible for development on the billing module for an enterprise management system used by municipalities.

Notable achievements:

Implemented a domain model for the billing system and removed countless stored procedures. Introduced a messaging architecture on RabbitMQ using Shuttle.Esb and related components which enabled processing of any number of accounts where previously the system struggled to produce even a minimal set.

Demonstrated a single page application accessing a .Net Core web-api proof-of-concept running on Linux and had a minimal CanJS front-end to start a billing run. The back-end services were running as .Net Core console applications hosted on systemd as units. The database was still a Windows-based Sql Server running on the host.

Reason for leaving: Sebata moved to Centurion

MultiChoice Support Services / Solution Engineer

FEB 2013 - FEB 2016, RANDBURG, JOHANNESBURG

shuttle-esb, c#, asp.net-web-api, ember.js, node.js, sql-server

Responsible for the development of the front-end framework that interacted with a webMethods back-end and I also fulfilled the role of team lead and stand-in scrum master from time-to-time.

Notable achievements:

Used node.js to host the static ember.js site locally on the user's machine which would automatically update itself when a new version was released.

Introduced messaging using Shuttle.Esb:

- In the front-end framework we used it to co-ordinate cached data changes among the load-balanced application servers.
- The CRM team had tremendous issues with notifications to the webMethods back-end and their implementation would hang every-so-often. The offending code had been replaced by a Shuttle.Esb component that simplified the implementation and immediately resolved the issue. This work was done by the CRM team.
- Shuttle.Esb was also implemented in the customer self-service side of things as well as in an Integration Framework for a third-party system. This work was done by the relevant team.

Reason for leaving: in the process of emigrating.

Oz Technologies / Developer

JUL 2012 - JAN 2013, FOURWAYS, JOHANNESBURG

php, mysql

I was initially hired to assist in the redevelopment of existing PHP systems in C#. However, the business needs changed and I ended up working with PHP and MySql.

Reason for leaving: Since these technologies were not my focus I decided to seek employment elsewhere.

Ovations Technologies / Senior Consultant

AUG 2010 - JUN 2012, FOURWAYS, JOHANNESBURG

c#, sql-server, domain-driven-design, shuttle-esb

I was placed at Zurich insurance where I had to maintain an existing document indexing system that I eventually redeveloped.

Notable achievements:

Implemented a messaging system using Shuttle.Esb to replace the document indexing system which ended up providing much better visibility w.r.t. to the document indexing process. The system was also remarkably stable.

Reason for leaving: I received an interesting offer from Oz Technologies.

iSolve / Developer (contracting)

AUG 2010 - JUN 2012, JOHANNESBURG

c#, sql-server, html, jquery, nservicebus

I started out at Glenrand MIB (insurance) where I rewrote a premium calculation system that had a WinForms composite UI and made use of NServiceBus. The new system outperformed the existing system by many orders of magnitude and it went live after only 6 months of development with no more than 3 resources on the project at any one time.

I also helped out at Avis RAC while they were in a transitional phase w.r.t. resources.

Reason for leaving Glenrand: end of contract / project.

Reason for leaving Avis RAC: Avis appointed permanent candidates.

inSource / Developer (contracting)
DEC 2008 - JUN 2009, JOHANNESBURG

c#, sql-server

I was placed at Barone, Budge and Dominick where I assisted in the development of a finance system for Sasfin. This was quite a large team of around 20 folks and the project was already a year behind schedule. After my 6 month contract ended, I was offered permanent employment but did not feel comfortable with the solution and decided not to accept.

Qualica / Developer
MAY 2008 - OCT 2008, ROSEBANK, JOHANNESBURG

c#, sybase, jquery, asp.net-mvc

Solution architecture and re-development of the 1Time web application. The existing application was written in Perl with a Sybase database. This had to be re-developed in C#.

Reason for leaving: the environment was not for me.

Lucid / Developer (contracting)
FEB 2008 - APR 2008, LOCATION

c#

Maintenance of existing solutions and ad-hoc additional functionality for First National Bank (Home Loans).

Reason for leaving: the environment was not for me.

Rand Mutual Assurance / Developer (contracting)
MAR 2007 - JAN 2008, PARKTOWN, JOHANNESBURG

c#, asp.net-ajax, wcsf, wssf

Re-write of the claims system.

The development of the system never really got off the ground so I spent quite a bit of time on research and architecture of the proposed re-write.

Reason for leaving: The project never really got going.

Sabatical
JAN 2003 - FEB 2007, PRETORIA

vb6, vb.net, c#

During this time I completed my MCSD for VB.NET and created a code generator that I intended to market as a product.

I also performed some ad-hoc contract work.

Liberty Life / Developer (contracting)
JAN 2002 - DEC 2002, BRAAMFONTEIN, JOHANNESBURG
vb6, asp-classic

After I returned from Saudi Arabia I was contacted by Liberty and asked to contract with them again. This time around I developed various smaller systems including an auto-update mechanism.

Reason for leaving: I needed some time off.

Algosaibi Information Systems / Developer (contracting)
JUN 2001 - NOV 2001, SAUDI ARABIA
vb6, ms-access-2000, excel-vba

Redeveloped a budgeting system.

The existing system was a huge Excel spreadsheet. This spreadsheet was used to perform budgeting and determine royalties. There was a previous attempt to re-write it in PowerBuilder that took a year and was eventually abandoned. I managed to write a successful system within 4 months. After that I also kicked-off the writing of an export management system.

Reason for leaving: end of contract / culture shock.

Liberty Life / Developer (contracting)
OCT 1998 - MAY2001, BRAAMFONTEIN, JOHANNESBURG
vb6, rational-rose, sqlbase, sql-server, iis

- Coding
- Development of Component-based Application Architecture
- Mentoring of Liberty staff

Reason for leaving: Opportunity to work in Saudi Arabia.

Eikon Software / Developer (contracting)
Jul 1998 - SEP 1998, BRAAMFONTEIN, JOHANNESBURG
vb5, rational-rose, sql-server

I was placed at Liberty Life and temporarily at Pretoria Portland Cement.

The Liberty project requirements were not yet in place when we arrived and the entire project team was asked to be placed elsewhere until Liberty was ready to proceed. While at PPC I maintained a reporting system and a chemical analysis simulator.

Reason for leaving: I started contracting directly to Liberty Life.

QData Consulting / Developer (contracting)
NOV 1996 - JUL 1998, MIDRAND
vb5, ms-access, vb4

I was placed within the QPlan Division to continue work on the QPlan maintenance management system. Just before I left I did a short stint at Nedcor / American Express.

Reason for leaving: I was looking out for something new.

TopData Consulting / Developer (contracting)
JUL 1996 - NOV 1996, CENTURION

vb4, msaccess, mapi

I was placed at the South African Forestry Company Limited where I maintained an Access 2.0 application and also implemented a MAPI application.

Reason for leaving: I had expected to work on a Sql Server-based project.

QData Consulting / Developer (contracting)
JUL 1995 - JUL 1996, MIDRAND

vb3, vb4, msaccess, regis, crystal-reports

Initially I worked at Glen Agricultural Institute in Bloemfontein on a soil conservation system and then moved over to Johannesburg to work on QPlan for QData Consulting.

Reason for leaving: I was looking for better career prospects.

Netwise / General
MAR 1994 - JUN 1995, BLOEMFONTEIN

novell, lantastic, windows-3.1, windows-for-workgroups, msoffice, wordperfect, lotus

This was my first job and did not include any professional software development.

I was involved with network installation, software and hardware sales, and general IT support.

Reason for leaving: Opportunity to get into software development.

Education

Technikons OFS / N. Dip. Computer Data Processing

1991 - 1993, BLOEMFONTEIN

The course was focused on structured programming using COBOL and together with Information Systems, comprised the major subjects.

I managed to complete 6 out of the 12 subjects (4 per year) with distinction.

Certifications

MCP ID: 1090158

Microsoft Certified: Azure Administrator Associate

Expires: 26 Jun 2025

Microsoft Certified Solution Developer **.NET**)

2002 - 2003

vb.net, sql-server, web-services

Microsoft Certified Solution Developer **VB6**

1999 - 2000

vb6, sql-server

Microsoft Certified Solution Developer **VB5**

1998 - 1999

vb5, sql-server

Projects & Interests

Blog
https://ebenroux.co.za

StackOverflow
https://stackoverflow.com/users/324157/eben-roux

Shuttle
https://github.com/Shuttle

Provides a free open-source service bus, event-sourcing mechanism, and other useful software which is documented here:

Documentation
https://www.pendel.co.za/

The documentation was created using VitePress and hosted on GitHub pages.