

MARCELO CORREIA PINHEIRO

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Problem-solver, result-oriented, creative full-stack developer since 2000, starting with Macromedia Flash ActionScript 4, Visual Basic 6, Delphi 8, ASP and PHP, having contact with C# / Java / Python in corporate software market for 8 years. UNIX user since 2003, from FreeBSD to Slackware, ArchLinux and today using macOS with Debian / CentOS / Alpine Linux as development platform when needed. Worked with main SQL Databases like Oracle / Microsoft SQL Server / MySQL / PostgreSQL and NoSQL Databases as MongoDB / Redis in daily development. System Administration knowledge to troubleshoot performance issues and architect new applications using High Availability common practices (from traditional LVS/ HAProxy to Cloud Load Balancers), Apache/Nginx setup, Configuration Management and monitoring best practices. Git / Vim / Terminal / Vagrant / Docker heavy user and advocate of Hashicorp tools related to Infrastructure as Code like Packer and Terraform. Today I'm working with Ruby, Python, Javascript, Golang, Clojure programming languages and others when needed.

Solid experience as a team lead solving conflicts, aligning priorities with stakeholders, defining dates and empowering teammates by sharing responsibilities and goals.

United States VISA B1 / B2, availability to travel to any place at any time. Four years of experience working remotely with distributed teams around the globe.

I attended as a speaker in some of the biggest technology conferences in Brazil like [QConSP](#), [The Developer's Conference](#), [Agile Brazil](#) and [Rubyconf Brazil](#), starting at 2012. Joined on Meetup events in São Paulo and Porto Alegre. In these conferences and meetings I've talked about Infrastructure as Code, Asynchronous Computing libraries, tools to provision Cloud Computing servers, Continuous Integration / Delivery / Deployment best practices, techniques to work with high concurrency environments and related systems. My presentation slides are available on [Speakerdeck](#) and [Slideshare](#), as same my code repositories on [GitHub](#).

At this time, I'm focused to work with development, infrastructure, operations and automation as a problem-solver acting as a leader when needed. Related knowledge:

- **Configuration Management:** Ansible / Salt / Chef / Puppet
- **Containerisation:** Docker, LXC, Kubernetes, AWS Fargate
- **Virtualisation:** VMWare, KVM
- **Public Cloud Platforms:** Amazon Web Services, Google Compute, Microsoft Azure
- **Continuous Integration / Delivery / Deployment:** Jenkins, Thoughtworks Go, AWS CodePipeline / Build, Microsoft Azure DevOps, GitHub Actions, CircleCI, GitLab
- **Private Cloud Platforms:** CloudStack, OpenStack
- **Automation Tools:** Packer, Terraform
- **Service Discovery:** Serf, Consul
- **Orchestration:** Apache Mesos, Kubernetes

Education

- Universidade Mackenzie, São Paulo - Computer Science Bachelor's Degree (2013 to 2014)
- UNISINOS, São Leopoldo - Computer Science Bachelor's Degree (2000 to 2009)

Books

- [Vagrant Virtual Development Environment Cookbook](#) - PacktPub Publishing, Birmingham - UK. Worked as reviewer.
- [Monitoring Docker](#) - PacktPub Publishing, Birmingham - UK. Main reviewer.

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Professional Experience

Lead DevOps Engineer

Work & Co - São Paulo, Brazil / New York & Portland, USA - 05/2018 - 05/2020

Responsible to manage the [Clubhouse's](#) Kanban dashboard with internal activities, align future allocations with the Work & Co Team Planner director. Mentoring, remote pair programming and proper project onboarding sessions with the team members.

I purposed the *DevOps Allocation Model* for both Technology and Product Teams using a [BPMN Lucidchart](#) diagram covering all steps from a project, starting from the New Biz prospecting to the initial development, first production-ready release launch, contract extensions and final handoff.

I lead the cloud infrastructure setup in a new project under development for [Gatorade](#). This project was initially configured to run into Microsoft Azure with a set of App Services for the APIs; after a client decision we moved the entire stack to Amazon Web Services. The infrastructure is now composed by a single AWS VPC with four **AWS Fargate** clusters (one per environment) in exclusive AWS Route53 DNS *subzones*, ECR as Docker images repository, **one ALB with respective ACM Certificate per environment using Traefik as an Container Load Balancer to dispatch HTTP requests for all APIs running into these clusters**, a Cognito pool, several Lambdas and Cloudwatch Metric Alarms / Events to monitor rollout deployments and behaviour-driven HTTP status checks, all these configured to trigger Slack notifications in a dedicated channel. All applications deployments are orchestrated by using [GitHub Actions Repository Dispatch Events](#) executing Terraform recipes located at an Infrastructure As Code exclusive git repository. All metrics are available in Cloudwatch Dashboards per environment with the combination of [aws-cdk](#) with an Terraform recipe.

Created the cloud infrastructure setup for the new [Red Robin](#) e-commerce website using AWS VPC, CloudFormation, CloudFront, API Gateway, Lambda, S3 and CloudWatch Logs using Terraform workspaces. Every application on this project have respective CircleCI configurations to trigger deployments on environments, based on a set of workflows and custom jobs.

Lead the movement to replace the Docker Swarm cluster dedicated for internal projects built by me in 2017 to an **AWS Fargate** cluster using all features, from application logs being streamed to CloudWatch Logs to Container Autoscaling, Cloudwatch Alerts and Elasticsearch Kibana access. *This cluster was created using Terraform modules from Work & Co GitHub private repository wrote by me.*

Responsible for the infrastructure setup to [Gatorade Highlights](#) project, composed by AWS Cognito using an Terraform recipe to manage related resources.

Lead the infrastructure implantation for [Claro](#) project, a huge Brazilian Telecom. This stack is composed by a AWS VPC with a special subnet configuration to able a set of Lambdas to be executed in a private network to encapsulate data for security reasons, properly written using Terraform recipes. Support to the Backend Team debugging private network connectivity issues at client infrastructure side and supervision respective DevOps team to create all components in the client production AWS account.

Worked in the cloud infrastructure setup for [Icatu Seguros](#), a famous Brazilian health insurance company. This project is composed by a set of [Microsoft Azure Container Instances](#) orchestrated by [CircleCI](#) jobs, in a Virtual Network with a Virtual Network Gateway attached to establish a VPN Site-to-Site SSH Tunnel to the client network in order to grant access to a few private REST APIs.

DevOps Engineer

Work & Co - São Paulo, Brazil / New York, USA / Belgrade, Serbia - 11/2016 - 05/2018

Responsible to develop and maintain a in-house Platform as a Service solution called Venice, a Node.js application which orchestrates builds and deployments using GitHub API / Webhooks and Ansible. Every project tracked by Venice creates a artefact build to be stored at GitHub as a release and a deploy is triggered after every build upload. Responsible to implement the switch from AWS EC2 instances to host application deployments to a Docker Swarm cluster composed by a set of 3 managers and 3 workers on EC2 running Ubuntu Server being

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monitored by [Sysdig Cloud](#), that has implied in a **reduction of 56 servers to only 6 instances** in that moment. **This cluster has reached the maximum setup of 3 managers + 5 workers and a record of 443 containers under execution in 2019, using Traefik as the main Container Load Balancer and Service Discovery.** The positive feedback inspired me to create a small Docker Swarm cluster to run internal Work & Co projects.

Lead the infrastructure implementation for [Givewith](#) project, composed by a traditional stack of AWS Cloudfront for the UI, ALB for the API and EC2 instances covered by Terraform and Ansible recipes to provision components and setup servers / deploy applications. Due for different AWS accounts used to manage each environment, all recipes wrote had support for AWS Organizations and Terraform Workspaces. **Support to the Backend Team to made a MongoDB Replicaset Connection setup on the Backend API writing Clojure code.** *This project was the initial foundation to the Work & Co Terraform Modules and Ansible codebase private GitHub repositories maintained by me.*

Responsible to build the infrastructure for [Beacon](#), a [Embraer's](#) company. This project was consisted by a Docker Swarm cluster to run API, NATS messaging system and other containers. All infrastructure was built from scratch using Terraform and Ansible, managing from AWS Route53 DNS zone to ACM Certificates for all applications wrote for this project.

Senior Developer

[Ingresso Rápido](#) - Barueri, Brazil - 03/2016 - 08/2016

Responsible to develop a totally new platform for sales, ticket office and customer support using Java 8, Spring, Postgres, Redis, React and AWS services like SQS and S3. Creation of a Docker environment to support local development for team.

DevOps Engineer

[CloudWalk](#) - Franca, Brazil - 01/2016 - 02/2016

Responsible to create a deployment pipeline for payment gateway backend application on Amazon Elastic Load Balancer (ELB). Ruby / Golang / Ansible development.

DevOps Engineer

[Moip Pagamentos](#) - São Paulo, Brazil - 11/2014 - 10/2015

Responsible to define platform targets to be automated following best practices, migration from actual datacenter to Amazon Web Services. Construction of a entire Continuous Integration environment using [Thoughtworks Go](#), using Docker to scale Go Agents - interlinked to MySQL, MongoDB and Redis databases based on Data Container technique, able to make [RVM](#) / [JENV](#) hot updates when needed - to build Ruby & Java applications. This environment was 100% wrote using Infrastructure as Code conventions, with Terraform and Ansible. All Ruby / Java applications are built using Thoughtworks Go templates scheme, capable to manage applications in a standard way and ready to grow. Adoption of [fpm-cookery](#) to package Tomcat, ActiveMQ, Terraform, Packer and other tools as customized CentOS RPM files.

Creation of an entire AWS VPC to handle [PCI-DSS v3.0](#) compliance, using Terraform to handle all network ACL's, subnets, security group, jumpservers and other requirements. All SSH bastions are built using Packer to standardise machines, since sudo configuration to LDAP integration.

I wrote Packer recipes to standardise per-environment machines (integration / sandbox / production), with a set of common sysadmin tools like httpd, tmux, LDAP client and other binaries. All these was integrated with Ansible recipes to make code reusable.

Automation of application's AMI generation using idempotent scripts with Packer, Ansible, Terraform and Bash to create Blue / Green Elastic Load Balancers on Amazon. These machines are automated using CloudInit boot scripts to able server monitoring ([Sensu](#)), antivirus / intrusion detection ([TrendMicro Deep Security](#)), authentication ([LDAP](#)) and log collection (Elasticsearch / Kibana / Logstash).

Lead Developer

[Locaweb](#) - São Paulo, Brazil - 01/2014 - 11/2014

Domain Registration Team Lead, responsible for internal migration of .com/.net domain's database between Locaweb registries (Verisign to Enom). Improvements on provisioner and

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domain's ecosystem to support migration, based on little delivering cycles by using *Feature Toggle* technique, granting a smooth change to Locaweb customers. Backlog management, negotiation with Products / UX Teams, four-hand work with Operations Team to improve application monitoring and fast fixes. Collaboration with other tech leads to upgrade our current application architecture in PaaS, improve QA and automate builds using Jenkins. Tech Coaching and Mentoring with newer developers using pair programming to demonstrate better Design Patterns, measure algorithms complexity, optimisation and refactoring using Object-Oriented Programming techniques. Done little A/B testings in front-end applications (Domain & DNS Panel) to solve navigation issues and offer new features to customers.

Senior Developer

Locaweb - São Paulo, Brazil - 06/2010 - 12/2013

Started working on minor bugfixes in [Customer Legacy Hosting Panel](#), changing to Domain Registration / Transfer to automate related provision system - Ruby on Rails Resque app that handles domain billing / renew / delete / transfer-out and other background tasks -, in a effort to store all domains in a MongoDB database instead of centralised SQL Server to increase performance. Migration of Apache Passenger to Nginx using a cluster of [Thin](#) instances and further optimisations on HTTP server.

Wrote a new REST backend API application (Ruby on Rails) that encapsulates all communication with company registries ([Registro.br](#), [Verisign](#) and [Enom](#)), to unplug our provision system with other applications. This app is consumed by a totally-new Domain Checkout System wrote by me too (CSS, Javascript, Ruby on Rails with Memcached). I've updated new registries business rules and covered most of common transfer scenarios. This API was the most complex Checkout System that Locaweb had running in that moment, due for internal billing cycle and heterogeneous registries scenarios. I've used [HTTPPerf](#) to measure our backend system to grant enough throughput in peak hours. Domain Checkout integrates with Locaweb generic checkout by a XML payload with all products that customer wants to buy, recovering the payment method and other related information stored on [SAP](#) database.

Created some minor front-end / backend REST HTTP applications with Rails / Sinatra to our new DNS / Domain Customer Panel's along 2012. Working since this year as a senior member of PaaS team, increasing our development process - new application checklist, Debian/ CentOS app packaging and monitoring. Coached and mentored new colleagues with pair programming, based on main principles of Object-Oriented Programming, Algorithm Optimisation, Refactoring and Tests.

Since January 2013, I attended as a frequent speaker in Tech Talk Days promoted by Locaweb on Thursdays.

Until September 2013, worked in Customer Migration-related systems, like Product Logical Upgrades / Downgrades in our Hosting Provision System and Physical Migration of Customer sites between machines. This is a Ruby on Rails application wrote by me to be agnostic with our XML-RPC / REST / Legacy HTTP API's that handles all SSH / rsync / DNS steps. This app uses a small set of recipes based on all necessary API calls to transfer customer's \$HOME directory between servers / storages. We worked to make cross-platform migration (from a Shared Hosting Windows Server to a Cloud Linux Dedicated Server, per example).

From October to December 2013, worked in a special unit (internally named "BOPE") to resolve critical issues related with PaaS provisioners (Hosting, Plesk / Cpanel Reseller, Domain etc), based on ITIL process workflow.

Owner of app-skeleton-generator, a Locaweb devtool written in Ruby as a gem to standardise application packaging (CentOS, Debian) and process monitoring (using God) inside company. The library is a code generator based on Thor interactive tasks.

Contributed to locaweb-monitor, a Locaweb internal Ruby Gem used to show HTTP application dependencies (databases, cache, external API's, legacy HTTP systems, etc) as a JSON payload, with a REST API mounted as a Rack middleware and ready to be consumed by [CheckMK](#) monitoring servers in company to detect broken behaviours and measure availability.

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Technical Leader

Pontomobi - São Paulo, Brazil - 12/2009 to 04/2010

Responsible to manage a development of a new SaaS application to send SMS messages based on periodic media campaigns. This application was written in PHP with MySQL as database and a Java daemon to deliver messages, using sockets / HTTP client calling legacy API's. Tech coaching with newer colleagues using OOP best practices, Design Patterns and Tests.

Development Consultant

Plannertec - Porto Alegre, Brazil - 08/2008 to 11/2009

Worked as an independent consultant with ASP, PHP, Java, C# and system administration in some companies in Porto Alegre. Apache Webserver & Microsoft IIS optimisation. Had contact with PostgreSQL, MySQL, SQL Server and Oracle 11g databases, detecting issues with queries and optimising DB's with indexes, EXPLAIN and other techniques. Introducing OOP and refactoring to new programmers. Maintenance of web & database Linux servers (mainly Slackware and CentOS).

Development Consultant

DBKi - Porto Alegre, Brazil - 06/2007 to 08/2008

Development & System Analysis in three projects as a third-party consultant:

- Java Web Developer at [VIVO](#), a brazilian telecom, working in internal ERP maintenance using Struts 1.0, Servlets and Oracle 11g as database;
- System's Analyst of [Editora Abril](#), a brazilian press company, responsible to troubleshoot issues with Solaris Cluster used to serve dynamic content of main magazines ([Superinteressante](#), [Playboy](#) and others), using [Apache AB](#) tool to measure traffic load and Apache / JVM tuning;
- System's Analyst at [Walmart](#), responsible to gathering requirements on legacy ZIM logistic application and programming of new modules on the replacement software, written in Java with pure OOP approach and hot deploy on Windows CE barcode readers;

Web Developer

DBServer - Porto Alegre, Brazil - 05/2006 to 06/2007

C# Web Developer responsible to improve [Telefonica](#) corporate internet service provider ERP, using Microsoft SQL Server as database. Refactoring, OOP modelling and improvements on system to offer more internet broadband plans.

Web Developer & System Analyst

Conectt - Porto Alegre, Brazil - 11/2004 to 05/2006

Web Development and Analysis on five projects inside the company:

- Legacy ASP & Oracle PL/SQL Development / Troubleshooting / Maintenance of [Suzano Celulose](#) Competency-Based 360° HR Performance System, an in-house solution created by the company. Refactoring of existent Visual Basic 6 DLL's to support new features, database optimisation by four-hands with project DBA;
- VB.NET Development and Maintenance of [Pioneer Sementes](#) Intranet Portal, a Dupont company. Refactoring and evolution based on feature toggle and small deploys;
- C# / T-SQL Development of [AGCO](#) Intranet Portal. Mainly query optimisations and database modelling of new areas inside the intranet. Maintenance of legacy ASP code;
- VB.NET / T-SQL Development of [John Deere](#) Intranet Portal. Maintenance of legacy ASP code, database modelling of small features and programming;
- Legacy ASP / C# / T-SQL Development of the Hospital Auditory System used by [São Paulo State Health Secretary](#). Code Refactoring, troubleshooting using SQL EXPLAIN command, creation of database indexes and SQL query optimisation to resolve slow performance of critical reports. Implemented a [RPN \(Reverse Polish Notation\)](#) Parser in T-SQL to increase performance of annual reports composed by fields/formulas mapped on tables, resulting in queries approximately 40x more faster (old queries running in 40/45 seconds reduced to average of 1).

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Web Designer / Developer

Medialine - Porto Alegre, Brazil - 02/2002 to 04/2004

Legacy ASP & PHP Development of webpages, since from UX conception, wireframe conversion to programming. Creation of small e-commerce sites using ASP & Microsoft SQL Server. I wrote a new internal CRM using Visual Basic 6 and SQL Server 6.0.

Web Designer / Developer

Acesso Informática - Porto Alegre, Brazil - 04/2000 to 02/2002

ASP / PHP / Flash design and development of small websites using MySQL / Microsoft Access databases.

Open Source Projects

gordon

<https://github.com/salizzar/gordon>

A very opinionated library to create application packages using fpm-cookery and foreman. This gem is used to generate .deb / .rpm packages for most common applications: Ruby / Java web and standalone apps.

fpm-hells-kitchen

<https://github.com/salizzar/fpm-hells-kitchen>

My recipes to package tools to .deb / .rpm, since languages like Ruby to compiled binaries distributed as zipped package.

go-enom-client

<https://github.com/salizzar/go-enom-client>

Client for [Enom API](#), a domain registration company. Written in Go.

rubinius-debian

<https://github.com/salizzar/rubinius-debian>

Try to make Rubinius (a Ruby VM implementation using LLVM) distributable as .deb package for Debian Wheezy 64 bits.

mongomapper_fallback

https://github.com/salizzar/mongomapper_fallback

A Ruby Gem that handles common MongoDB connection failures related to Replicaset environment (connection hard refresh to the new elected MongoDB master server).

resque-logger

<https://github.com/salizzar/resque-logger>

A Resque plugin to create logfiles based on worker queue names.

redis_knock

https://github.com/salizzar/redis_knock

Ruby HTTP Throttle Rack middleware using Redis as store.

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Tech Talks and Conferences

[04/26/2019 - Speaker on The Developers Conference, Florianópolis, Brazil](#)

26/05/2018 - Speaker on Inter DevOps Conf, São José dos Campos, Brazil

[09/30/2017 - Speaker on The Conf, São Paulo, Brazil](#)

[09/13/2017 - Speaker on Agile Brazil, Belém do Pará, Brazil](#)

[07/18/2017 - Speaker on The Developers Conference, São Paulo, Brazil](#)

[06/14/2017 - Speaker on Docker Meetup São Paulo, São Paulo, Brazil](#)

[05/05/2017 - Speaker on The Developers Conference, Florianópolis, Brazil](#)

[10/08/2016 - Speaker on The Developers Conference, Porto Alegre, Brazil](#)

09/23/2016 - Speaker on Rubyconf Brazil, São Paulo, Brazil

10/17/2015 - Speaker on Inter DevOps Conf, Bebedouro, Brazil

[09/26/2015 - Speaker on The Developers Conference, Porto Alegre, Brazil](#)

09/18/2015 - Speaker on Rubyconf Brasil, São Paulo, Brazil

[25/07/2015 - Speaker on The Developers Conference, São Paulo, Brazil](#)

[11/04/2014 - Speaker on QConSP International Software Conference, São Paulo, Brazil](#)

19/10/2013 - Speaker on RS on Rails, Porto Alegre, Brazil

26/09/2013 - Speaker on Mackenzie University CS Academic Week, São Paulo, Brazil

15/09/2012 - Speaker on RS on Rails, Porto Alegre, Brazil

[07/2012 - Attendee on OSCON, Portland, USA](#)