

ACHRAF BELARIF

Virtualization and backend engineer with strong systems background, specializing in Linux, QEMU/KVM, and cloud infrastructure testing. Experienced in building scalable backend services, low-level systems, and automated validation frameworks.

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PROJECTS

Multiplayer Pong — *NestJS, TypeScript, React, Docker, PostgreSQL* [Source code](#)

Real-time multiplayer game with matchmaking, OAuth2/2FA authentication, live streaming, and customizable gameplay. Implemented server-side logic for scoring, leaderboards, and chat, ensuring smooth gameplay across concurrent users.

Webserv — *C++98, Nginx* [Source code](#)

Non-blocking HTTP server compliant with [RFC 2616](#); supports routing, CGI (PHP/Python), chunked transfer encoding, and custom error pages. Implemented performance optimizations for concurrent connections and resource handling.

Containers — *C++98* [Source code](#)

Custom implementation of STL-like containers (vector, stack, map) with full iterator support, exception safety, and adherence to complexity guarantees.

Minishell — *C, Bash* [Source code](#)

Unix shell replicating Bash behavior: pipelines, redirections, environment variable expansion, built-ins, signal handling, and process execution. Focused on stability and accurate error reporting.

Ft-Services — *Docker, Kubernetes* [Source code](#)

Deployed a multi-service application on Kubernetes including Nginx, WordPress, Grafana, MySQL, InfluxDB, FTTPS, and MetalLB. Implemented service monitoring, and automated recovery to ensure high availability.

EXPERIENCE

Oracle Casablanca, Morocco

Virtualization Engineer May 2024 – Present

- Validated Oracle Linux virtualization features (QEMU/KVM) across new hardware platforms, ensuring performance and stability.
- Designed and maintained automated test frameworks for cloud infrastructure validation and regression testing, improving coverage and reducing manual verification.
- Researched, evaluated, and integrated storage and networking solutions in cloud virtualization environments.
- Investigated customer-reported issues, performed platform compatibility analysis, and collaborated with global engineering teams to provide solutions.

Oracle Casablanca, Morocco

Software Engineer Apr 2023 – Apr 2024

- Contributed to Oracle open-source projects and internal developer tooling, enhancing code quality and maintainability.
- Built and automated the Oracle Contributor Agreement (OCA) signing and approval pipeline, streamlining contributor onboarding.

EDUCATION

1337 Coding School Benguerir, Morocco

Peer-to-peer, project-based software engineering program with emphasis on full-stack development, low-level systems, and collaborative problem solving Sep 2019 – Sep 2024

National School of Applied Sciences Safi, Morocco

Studies in mathematics, physics, and engineering fundamentals, including algorithms, data structures, and system modeling Sep 2018 – Dec 2020

SKILLS

Systems & Infrastructure:	Linux/Unix, OS Internals, Networking, QEMU, KVM, Libvirt, Docker, Kubernetes
Programming & Development:	C, C++, Java, JavaScript, Python, NestJS, Dropwizard, Oracle JET, Prisma
Databases & Data Management:	PostgreSQL, Oracle Database, SQL
Testing & Quality Assurance:	Test Automation, Avocado Framework, Bug Verification
Languages:	Arabic, English, French

VOLUNTEERING

Oracle Morocco R&D Ambassador — Oracle Dec 2024 – Present

Promoted Oracle programs across universities; organized tech talks for senior engineering students, and mentored PFE/OIP candidates through the hiring process.

Screndy Student Partner — LaStartupStation.co Mar 2018 – Apr 2022

Supported non-technical candidates in learning programming fundamentals; co-organized hackathons with academic and industry partners; guided participants in building mobile applications using the Screndy platform.

AWARDS

VIVO Energy National Prize — Injaz Al Maghrib (2018): Automated hydroponics system reducing water consumption by 40% using IoT-based monitoring and control.

Startup Weekend Awards — El Jadida & Rabat (2016): First and second prizes for Arduino-based IoT solutions in elderly assistance and smart home connectivity. Designed complete prototypes including sensors, mobile interfaces.