

Muchamad Coirul Anwar

Backend Software Engineer

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SUMMARY

Backend Software Engineer with 2+ years building and migrating production services in the banking sector. Works primarily in Go and Software AG webMethods ESB across payment services, API gateways, and legacy system integrations. Also contributing to open source: currently on RFC v4 for Rust bindings in the Linux Kernel IIO subsystem.

EXPERIENCE

Back-End Developer | Bank Rakyat Indonesia (BRI) Nov 2025 – Present

- Migrated **4 core payment services** (inquiry, transfer, status check) from C# to Go, cutting the service call chain from **2 hops to 1**. Also added database sequences to enforce idempotency under concurrent load.
Stack: Go, PostgreSQL, SQL Server, Redis, Docker, Kubernetes.
- Developed and maintained **6 payment API gateway services** on Software AG webMethods ESB, building integration flows in **IS Designer** while keeping existing legacy integrations running alongside new feature work.
- Set up **Fluentd** to collect and forward structured logs from multiple services to **Elasticsearch 8**, giving the team a central place to investigate production issues.
- Identified cache stampede risk on Redis-backed lookups and introduced **Go's singleflight pattern**: 1,000 concurrent requests to the same key hit the database only once, with all callers still receiving the result (**143x reduction** in memory overhead vs. without it).
- Reduced sprint cycle time by an estimated **57%** by bringing AI developer agents into the team's workflow, tracked by comparing sprint velocity before and after adoption.

Full-Stack Developer | Mitraplus Infotek TotalSolusi Dec 2023 – Nov 2025

- Moved the backend runtime from **Node.js to Bun**; throughput went up **3x**, CPU usage dropped **50%**, both confirmed in Grafana.
- Built a single GitHub Actions CI/CD template used across **10+ applications**, tripling deployment frequency and holding a **97% success rate** across 5 environments.
- Set up a full observability stack (Prometheus, Grafana, Loki), cutting **Mean Time to Detect (MTTD) for production errors by 50%**.

PROJECTS

Rust-for-Linux Contributor | IIO Subsystem [LKML](#)

- Contributing Rust bindings for the Linux Kernel IIO subsystem (**RFC v4**), writing safe abstractions over the IIO core and I2C bus interfaces.
- **On the fourth revision** after multiple review cycles with upstream maintainers, working through C-FFI constraints and `no_std` memory safety requirements.

Void OS | Rust Unikernel [Github](#)

- Building a bare-metal Unikernel OS in **Rust and x86 Assembly**, mostly to understand how things work at the hardware level.
- Developing a custom bootloader and x86 paging from scratch inside a **`no_std` environment**, with no OS or allocator underneath.

PlutoDB | Lightweight NoSQL Database Engine [Github](#)

- Built a persistent key-value store from scratch to learn how storage engines work under the hood.
- Implemented an append-only log for durability, a **B-Tree index** in memory for fast reads, and log compaction to keep storage size manageable.

SKILLS

Programming Go (Gin, Fiber), Rust (Axum, no_std), SQL, Node.js/Bun, TypeScript (React, Svelte), x86 Assembly

Backend RESTful APIs, gRPC, Microservices Architecture, Event-Driven Architecture, RabbitMQ

Integration Software AG webMethods ESB, IS Designer, Apigee

Infrastructure Docker, Kubernetes (HPA), AWS (EC2, Lambda, S3), CI/CD (GitHub Actions), GitOps

Observability Prometheus, Grafana, Loki, Fluentd, Elasticsearch

Databases PostgreSQL, SQL Server, Redis, MongoDB

Testing Go unit testing, benchmarking (testing.B)

Languages English (Limited Working Proficiency), Indonesian (Native)

EDUCATION

Open University of Indonesia B.S. Information Systems *Sep 2024 – Jun 2028 (Expected)*

SMKN 26 Jakarta Electrical Engineering *Jul 2016 – Jun 2020*

AWARDS

Gold Medal | National Vocational Skills Competition (Industrial Control) *May 2018*

- Designed and implemented automated industrial workflows using PLC programming and ladder diagram logic.

VOLUNTEER

Program Development | Asa Insan Muda Foundation *Feb – May 2021*

- Planned and executed community outreach programs, coordinated **5+ volunteers**, and managed logistics for **200+ aid packages** during COVID-19 relief efforts.