

BILAL SIDDIQUE

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Software Engineer

Software Engineer with 2+ years of software engineering experience building scalable APIs, distributed applications, and production systems using Node.js, NestJS, Express.js, PostgreSQL, MongoDB, and AWS. Experienced in backend architecture, RESTful APIs, authentication, multi-tenant systems, payment and revenue workflows, and cloud infrastructure. Strong background in designing reliable and maintainable systems, with hands-on experience across Docker, Terraform, CI/CD, and AWS. Focused on building secure, scalable backend solutions and solving complex engineering problems.

WORK EXPERIENCE

Code Reroute • Remote — Canada • 04/2024 - Present

Junior DevOps / Cloud & Full-Stack Engineer • Full-time

- Designed and built a multi-tenant restaurant SaaS admin panel as the **sole engineer** on the project, using Next.js, TypeScript, shadcn/ui, and TanStack Query to give the startup one place to manage users, restaurants, staff, and reservations, review ownership claims and reports, moderate content, and monitor live platform metrics.
- Independently designed and developed **ECS MonitorPro**, an internal cloud management platform that centralized AWS infrastructure operations, providing real-time ECS cluster and container visibility, CloudWatch logs, Cost Explorer analytics, Cloudflare controls, and operational management workflows.
- Designed and implemented the revenue system for a multi-tenant restaurant SaaS platform using Stripe, integrating payment processing and revenue workflows across tenants while connecting payment events with the application's business and reservation lifecycle.
- Independently architected and delivered a V2 media upload system using direct-to-S3 presigned POSTs, eliminating the 10 MB API Gateway upload bottleneck and reducing application-server load; implemented short-lived upload sessions, authorization and quota checks, and server-side object verification to secure and validate uploads.
- Pioneered DevOps culture in a startup by adopting Infrastructure as Code with Terraform and automating end-to-end CI/CD pipelines via GitHub Actions, cutting manual release effort by 80% and enabling zero-downtime deployments.
- Architected and deployed a production-grade AWS ECS infrastructure using Terraform, provisioning VPC, ALB, IAM roles & policies, OIDC providers, ACM certificates, and ECR repositories for fully automated, secure deployments.
- Optimized Docker images from 930 MB to 220 MB, significantly improving build times and reducing ECR storage costs.
- Migrated deployment strategy from ECS to EC2 with Docker Compose for pre-launch cost optimization; managed the complete EC2 instance lifecycle including Nginx and SSL certificate auto-renewal.
- Implemented a full-stack observability platform using Prometheus, Grafana, Loki, and Tempo; instrumented all microservices with OpenTelemetry (OTLP) to enable distributed tracing, centralized log aggregation, and log-to-trace correlation for rapid bug resolution.

RadicalX • Remote • 09/2022 - 11/2022

Software Engineer (Internship)

- Collaborated in a cross-functional team of frontend/backend developers, designers, and PMs to build a company apprenticeship portal with full CRUD functionality.
- Tech stack: React.js, Redux Toolkit, Firebase, JavaScript, Tailwind CSS; implemented responsive layouts and contributed to engineering ticket breakdowns from user stories.

EDUCATION

BS in Software Engineering

NED University of Engineering & Technology • Karachi, Pakistan • 10/2019 - 10/2023

- Relevant Coursework: Cloud Computing (A) • Data Encryption & Security (A) • Data Mining (A) • Data Structures & Algorithms • OOP

CERTIFICATIONS

DevOps and Cloud Automation • 06/2026 - 09/2026

Usman Institute of Technology

PROJECTS

Observability Stack (Microservices Architecture)

Code Reroute

- Designed and deployed a full observability stack (Prometheus, Grafana, Loki, Tempo) on an EC2 instance; integrated OpenTelemetry across all backend microservices to collect metrics, logs, and distributed traces with OTLP.
- Established log-to-trace correlation in Grafana/Tempo, enabling engineers to jump from a log entry directly to the corresponding distributed trace, dramatically reducing mean time to resolution (MTTR).

Multi-Tenant SaaS Admin Platform • 04/2026 - 07/2026

Code Reroute

Designed and developed a comprehensive internal admin platform for a multi-tenant restaurant SaaS, centralizing management of **thousands of restaurants and platform users** across verification, reservations, ownership claims, moderation, and staff operations.

Architected and built the platform end-to-end as the **sole engineer**, using **Next.js, TypeScript, NestJS, TanStack Query, and shadcn/ui**, with a modular architecture designed for scalability and future expansion.

Streamlined administrative workflows by replacing fragmented manual processes with advanced search/filtering, restaurant verification, reservation management, user moderation, staff assignment, and detailed operational insights.

ECS Monitor Pro • 11/2024 - 02/2025

Code Reroute

- Internal admin dashboard for an AWS ECS cluster: real-time container metrics, task counts, cluster health, AWS Cost Explorer visualizations (daily averages, service-wise breakdowns), Cloudflare geo-blocking controls, user/employee management with resume viewing, an ECS log viewer, and mass email targeting for beta users and applicants.
- Stack: Next.js, NestJS, AWS SDK, CloudWatch, Cloudflare API, Resend.

Play — YouTube Clone Backend

Production-grade YouTube clone backend (Node.js, Express, MongoDB, JWT) supporting video uploads, subscriptions, likes, comments, and Cloudinary media storage.

VOLUNTEERING & LEADERSHIP

Usman Institute of Technology • 01/2023 - 07/2023

Python Programming Instructor • karachi, Sindh

Led Python programming lectures and hands-on tutorial sessions in collaboration with the lead lecturer, providing students with practical programming guidance and additional academic support. Organized and supported coding events and programming activities, contributing to a stronger programming culture among students.

SKILLS

Cloud & Infra: AWS (ECS, EC2, VPC, ALB, IAM, ACM, ECR, CloudWatch, Cost Explorer), Cloudflare, Docker, Docker Compose, Nginx, Terraform

CI/CD: Automated ECS & EC2 deployments, ECR-based pipelines, GitHub Actions

Observability: Distributed Tracing, Grafana, Log-Trace Correlation, Loki, OpenTelemetry (OTLP), Prometheus, Tempo

Backend: Express.js, NestJS, Node.js

Frontend: Next.js, React.js, shadcn/ui, Tailwind CSS, TanStack Query, TypeScript

Dev Practices: Agile/Scrum, Git, Linux/Unix, Microservices, Shell Scripting