

Matt Butler

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Author • Architect • Developer • AI Engineering • Streaming / Distributed Systems

Summary

Highly capable engineer and accomplished technical author with 20+ years of application development experience in a variety of technologies. Some references and performance reviews:

"His keen desire to hone his skills ... is laudable and should enhance his already sharp ability to design, develop, test, implement, and maintain automated solutions."

"Matt is the kind of person I would bring with me anywhere I go... he's able to take a technology he's never seen before and master it over the weekend."

"..Matt absolutely shines. His ability to design and code automated solutions is exceptional. According to his team lead, Matt's approach and results in this area are nothing short of phenomenal."

"..Matt is impeccable. His work is rife with exceptional, and at times, brilliant design and code as lauded by his team lead on numerous occasions."

"...his team lead has lauded Matt's work on several occasions and commented that his design and code is superb and some of the best he's seen."

Expertise

- **Streaming & Events: Apache Kafka, Apache Flink, Confluent (Certified Developer), Ververica,**
- **RocksDB, Protocol Buffers (Protobuf), Apache Avro**
- **Languages: Java, C#/.NET, JavaScript, Scala**
- **Cloud & Infrastructure: Google Cloud (GKE, GCS), AWS, Azure, Kubernetes, Docker, Helm, Flink Kubernetes Operator**
- **Observability: Prometheus, OpenMetrics, DataDog**
- **Data: Oracle, SQL Server, MySQL, Couchbase, Elasticsearch**

- **CI/CD & Tools:** Git, GitLab, BitBucket, Jenkins, CircleCI, Maven/Gradle, Yarn
- **AI Development Tools:** Claude Code, Gemini, OpenAI
- **Other:** REST, SAML, SOA, Scrum Team Lead, TDD, HIPAA Compliance

Latest Professional Experience

Sr. Platform Engineer - Streaming

Amtote. 2024-May 2026

Core developer on a distributed parimutuel wagering platform comprising ~56 microservices (.NET, Node.js, Java). Owned the Prism Bet Events App, a high-throughput Apache Flink streaming application serving as the totalizator, processing 10s-of-thousands of bets per second. Responsible for design, implementation, and production reliability of real-time event processing pipelines serving downstream market odds, regulatory, and analytics systems. Leveraged AI-*assisted* development via Claude Code as an integral part of daily workflow for architectural design, root cause analysis, code review, and technical documentation across the full software development lifecycle.

- Owned the design and evolution of a 48-operator Flink DAG with 13+ keyed state descriptors, serving as the real-time totalizator -- aggregating all bets across wagering channels into pool totals that drive live odds on the tote board
- Designed and implemented deterministic market closure system replacing time-based mechanism, tracking validator consensus with RocksDB-persisted state and crash recovery
- Diagnosed a checkpoint OOM crash caused by a GCS buffer leak spanning four bugs across Google's client library, the Hadoop GCS connector, and Flink's state uploader and GCS plugin, each failing to release 67MB upload buffers on checkpoint failure. Resolved by replacing the GCS checkpoint path with Flink's S3A plugin targeting GCS's S3-compatible API, bypassing the leaky upload path entirely. Bugs remain unreported upstream; most Flink deployments use S3, not GCS

- Designed and built a Flink State Inspection CLI and Web UI for reading, analyzing, and diffing broadcast and keyed state from production savepoints and checkpoints stored on GCS. Built on the Flink State Processor API, the tool runs locally without cluster access, enabling rapid incident diagnosis directly addressing prior production incidents where opaque state caused silent event drops and unverifiable checkpoint recoveries. 113 unit tests, Dockerized with Helm chart for GKE deployment
- Built Kafka topic archival system with race-condition protection and deletion barriers, zero data loss across graceful restarts and crash recovery scenarios
- Identified Kubernetes HPA misconfiguration (30:1 CPU limits-to-requests ratio) causing pods to scale from 2 to 10 replicas; prevented cluster resource exhaustion
- Implemented protobuf deserialization resilience handling multiple wire formats including .NET Confluent Kafka producers, eliminating poison-pill job failures
- Fixed regulatory compliance gap ensuring collation matrices emitted for all Pick 4/5/6 markets regardless of bet volume
- Designed adaptive logging infrastructure with ring buffer and automatic error escalation, reducing production log volume while maintaining visibility during critical issues

Utilized: Flink, Kafka (Confluent Cloud), RocksDB, Protocol Buffers, Confluent Schema Registry, Kubernetes (GKE), Flink Kubernetes Operator, Docker, Helm, Google Cloud (GCS), Prometheus, Java, Tilt, JIRA

Sr. Consultant (Track B Level 3)

Amwell. 2023-June 2024

- As a member of a small team, contributed to the research, design, architecture, and delivery of a platform enabling Amwell partners to register for

WebHook/CloudEvent notifications when their patients use Amwell's web or mobile services. These events encompassed a range of types, including revenue, visit scheduling, notifications, user analytics, and more. Workflow: Redis streams -> Kafka -> Flink job (conform) -> Flink job (enrich) -> event publication for client consumption.

Utilized: Flink, Kafka, Redis, Kubernetes, DynamoDB, WebHooks, CloudEvents, Google Tag Manager / Matomo / MySQL, Fhir Query, Google Cloud / Fhir

Sr. Consultant Engineering & Architecture

Carrera Group, Inc. 2020-2023

- Scala-based parser, interpreter and extremely high performance execution engine for CQL and FHIR standard on RocksDB. Engine scans 400 million records and computes rules in approximately 7 milliseconds.
- Various Apache Kafka and Flink projects Java.
 - **Boars Head** – data migration project moving from Oracle databases to ClickHouse for the purposes of data analytics. Workflow: Oracle -> Debezium -> Kafka (Veriverica) -> Flink -> ClickHouse
 - **United Wholesale Mortgage** (subcontracted through Confluent) -
 - Kafka KStreams Applications:
 - Loan pipeline refactor – required joining messages between customer / customer group / primary borrower / main loan topics in order to provide a complete record to consumers of the loan pipeline stream. Topics hydrated by Oracle / Debezium CDC. Configured Confluent Cloud as needed.
 - Wrote .NET library to provide KStreams functionality to .NET developers.
 - Participated in creation of Disaster Recovery plan
 - **Home Point** (sub-contracted through Confluent)

- Kafka Streams Application for DLQ monitoring and response. Utilized KStreams, MongoDB, DataDog, Java Spring Kafka.
- **Publix** – wrote playbook and implementations for several use-cases, such as distributing price changes to retail locations, store-to-store inventory transfer, pushing ~1300 stores sales data to corporate cluster, managing balance-on-hand tracking vs adjustments that impact balance-on-hand, processing inventory adjustments from outside vendors, etc. Utilized: Kafka, Flink, Debezium / CDC.

Sr. Application Developer, Scrum Team Lead

Cosential 2018-2020

- Implemented WsFed SSO via IdentityServer4 / .NET Core.
- Developed .NET 4.6 MVC REST API and 3rd party integrations such as BambooHR, Box.com, etc.
- Responsible for developing Docker stack for Couchbase and ElasticSearch

Application Developer, DevOps

Hewlett Packard/Innovative Way, Inc. 2013-2018

- Implemented authentication, authorization, and federated services using various providers and protocols.e.g. LDAP, SAML, Siteminder.
- Developed “What We Sell” project (content management and delivery platform through which HPES delivered sales content to its sales force and clients) in HP Public cloud and winner of ITSMA Marketing Excellence Award. ~107,000 users.
- Responsible for mission critical Dev Ops of 30+ servers, and 45+ databases
- Developed backend site for HP Experience Center -which provides resources and tools for HP employees, vendors and agencies developing digital experiences.
- Developed Cloud Maintenance Utilities - using C# and REST to monitor, manage, and maintain cloud instances on HP Helion

Author and Editorial Board Member

Wrox Publications

- Part of the leadership team that defined target market and specification for books.
- As a member of Wrox Editorial Board, determined what subject matter will be developed further and subsequently published.

Writing Experience

- **Professional ASP.NET Server Controls: Building Custom Controls with C#** Book (2002) ISBN:1861005644
- **Beginning ASP.NET Mobile Controls** Book (2001) ISBN: 1861005229
- **Beginning ASP.NET Databases using VB.NET** Book (2002) ISBN: 076454375X
- **Beginning ASP.NET Databases using C#** Book (2002) ISBN: 1861007418
- **Beginning ASP.NET 1.0 with C#.NET** Book (2002) ISBN: 0764543709
- **Beginning ASP.NET 1.0 with VB.NET** Book (2002) ISBN: 0764543695
- **Consuming XML Web Services in Classic ASP** Article (2002) dotnetjunkies
- **C# How to Program 1st Ed** Book (2001) Review Board Member

Certifications

- **Confluent Certified Developer for Apache Kafka**
- **MCS D (Microsoft Certified Solutions Developer)**
- **Microsoft MCP: Developing and Implementing Web Applications with Microsoft Visual Basic .NET and Microsoft® Visual Studio .NET** Microsoft
- **MCP: Designing and Implementing Desktop Applications with Microsoft Visual Basic 6.0** Microsoft
- **MCP: Visual Basic 6.0 Distributed Applications** Microsoft
- **MCP: Analyzing Requirements and Defining Solution Architectures** Microsoft
- **MCP: Designing and Implementing Web Solutions with MS Visual InterDev 6.0** Microsoft • **MCP: Administering Microsoft SQL Server 7.0** Microsoft

- **MCP: Designing and Implementing Databases with Microsoft SQL Server 7.0**
Microsoft
- **Certified Programmer for the Java 2 Platform Sun Microsystems**
- **BEA Certified Weblogic Server 5.1 Developer CIW**