Diana Todea - DX Engineer @VictoriaMetrics

De cero a desarrollador: mi viaje de un año de serendipia con OpenTelemetry

Cloud Native LATAM Summit

Nov 27, 4:00 PM – Nov 29, 4:00 PM

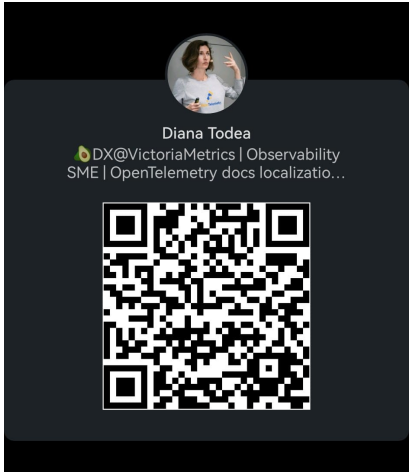
GMT-5 Evento Virtual

Cloud Computing * IA * Kubernetes * Seguridad * DevOps

Colaboradora de OTel

Organizadora Cloud Native Days Romania

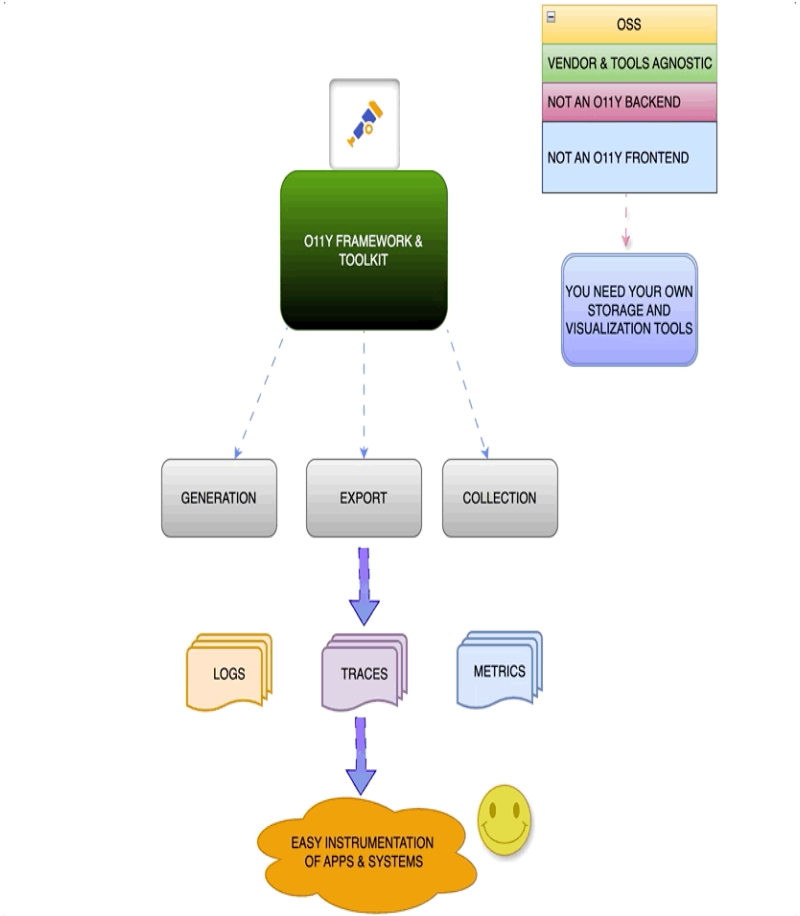
Co-lead CNCF Merge-Forward Neurodiversity



La telemetría tiene que ser

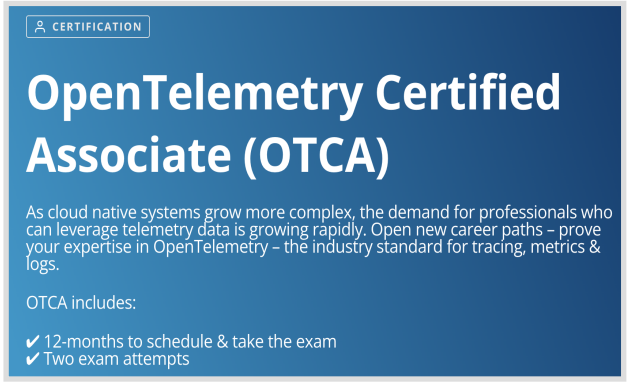
- ☑ fácil
- ☑ universal
- ☑ proveedor neutral
- ☑ débilmente acoplado (dependencias minimas)
- ☑ incorporada

La misión de OpenTelemetry: permitir una observabilidad efectiva haciendo que la telemetría portátil y de alta calidad sea universal


OSS
VENDOR & TOOLS AGNOSTIC
NOT AN O11Y BACKEND
NOT AN O11Y FRONTEND
O11Y FRAMEWORK & TOOLKIT
YOU NEED YOUR OWN STORAGE AND VISUALIZATION TOOLS
GENERATION
EXPORT
COLLECTION
LOGS
TRACES
METRICS
EASY INSTRUMENTATION OF APPS & SYSTEMS

Tener la curiosidad para empezar

La comunidad Linux Foundation buscaba especialistas en observabilidad para crear el primer examen y la primera certificación de OpenTelemetry.



Adoptar OTel en organizaciones

- Crear una prueba de concepto: explicar la estructura y lógica de OTel dentro de una organización
- Validar OTel en organizaciones medianas con observabilidad fragmentada constituye un desafío en sí mismo
- Porque no hemos adoptado OTel en producción: la documentación falta claridad y ejemplos reales, la instrumentalización manual es difícil, hay que tener en cuenta los gastos de la instrumentalización, las visualizaciones en el frontend OSS no están a la misma altura que en una plataforma comercial, que tipo de soporte vamos a recibir de la comunidad

I played with OTEL and I liked it

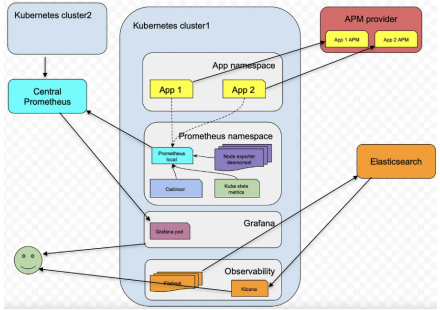
Diana Todea 4 min read · Jan 7, 2025

23

As mentioned in my previous article, in 2024 I had the opportunity to work on an observability project where I wrote a proof of concept on OpenTelemetry. As an SRE I saw the window to experiment with one of the most popular CNCF projects on distributed tracing and provide an open source alternative to monitor the performance of my client's applications. I had the chance to give a more in depth talk on this topic at KCD Accra Ghana as well as at OSMC 2024. You can access my presentations directly on my Github repo.

Architecture

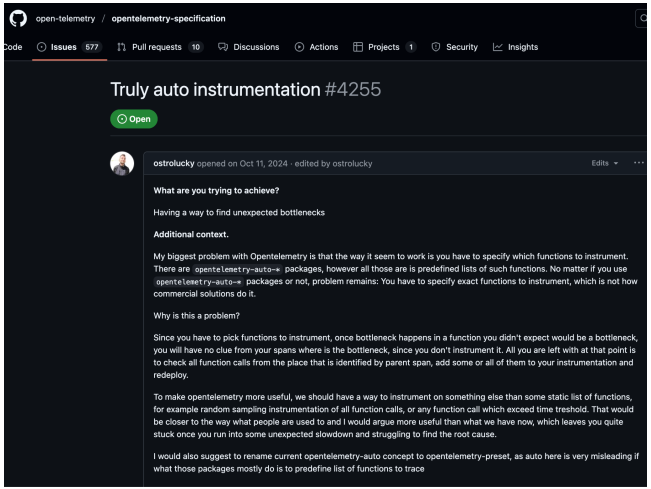
This particular observability architecture was mainly composed of Prometheus metrics, Victoria Metrics, Grafana for visualizations and alerting, ELK for logging and a commercial APM vendor. A fragmented observability architecture leads to a confusing developer and user experience, working in observability for almost 5 years now it's easy to say that most people prefer having a unified monitoring pane of glass, which is easier to onboard and manage.



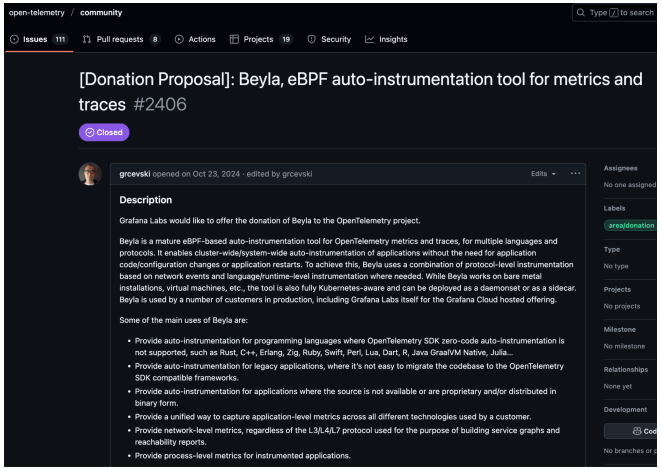
Observability architecture explaining how the K8s clusters ship metrics, traces and logs

Proporcionar comentarios de los desarrolladores

https://github.com/open-telemetry/opentelemetry-specification/issues/4255



https://github.com/open-telemetry/community/issues/2406



Colaborador individual en Cloud Native

No depende de la organización

Contribuciónes CON/SIN Código

Múltiples proyectos OSS

Apoyar las comunidades locales

#otel-docs-localization
#otel-localization-es
#cloud-native-valencia
#cnd-romania

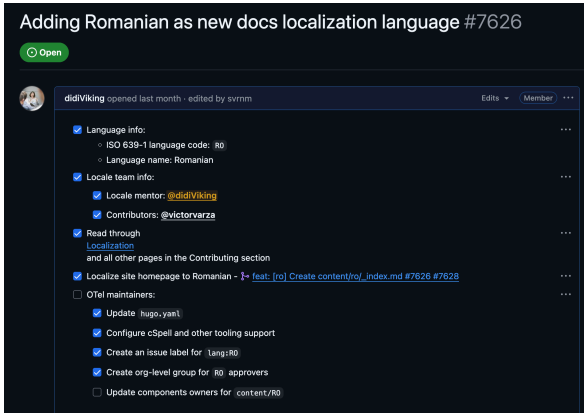
Localización

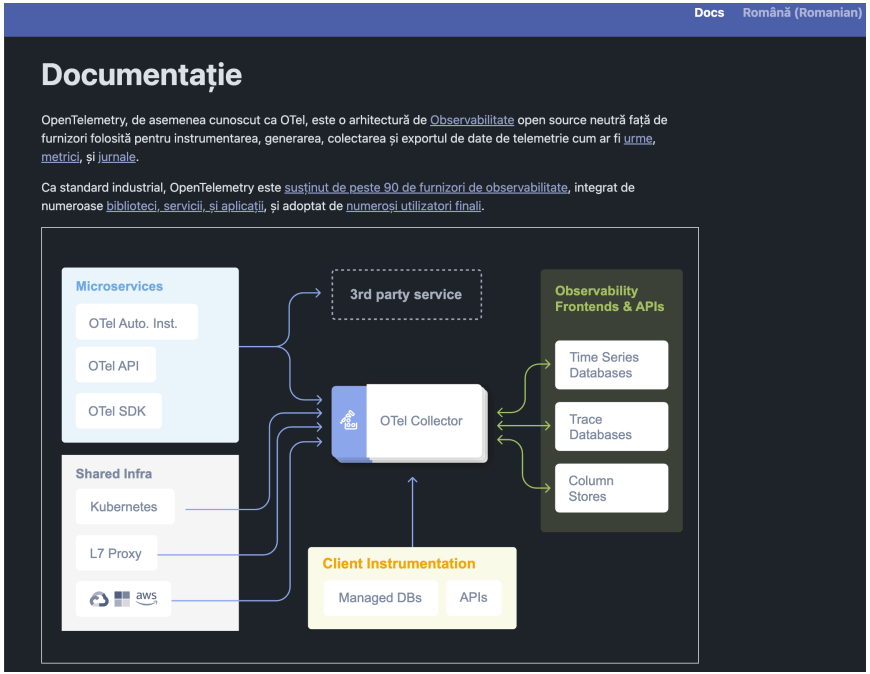
= GRAN IMPACTO


OTel
ROMANIAN

Potenciar la localización de OTel

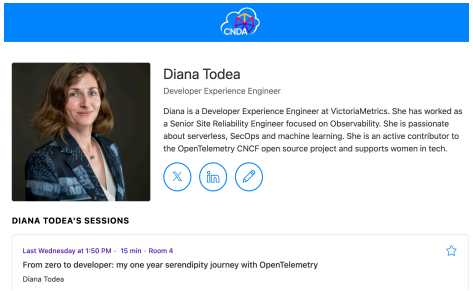
Presentar un problema, crear una primera solicitud
Construir una comunidad en torno a la localización
Nuevo SIG: #otel-localization-ro

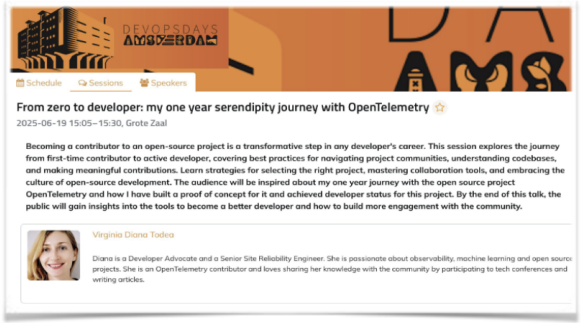


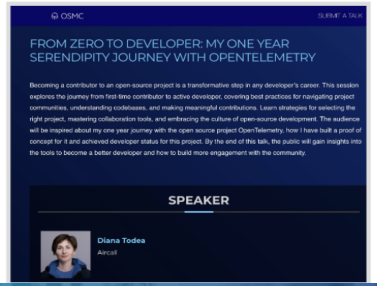


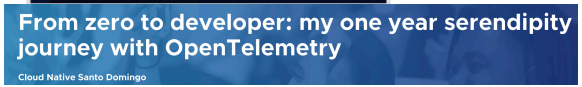
Compartir con audiencias amplias

🗣️ Contribuciones a la experiencia del desarrollador









Educar a través de contenidos escritos

Cloud Native Days Romania 2025- tales from the field

Diana Todea · 4 min read · May 8, 2025

I had the honor to participate at Cloud Native Days Romania's 2nd edition, hosted in Bucharest, Romania, on the 5th and 6th of May and honestly I was amazed. Meeting with a vibrant open source community, talented organizers and an overall curious audience that made me feel that I belonged, what a dream come true.

Formerly known as Kubernetes Community Days Romania, CND Romania has reinvented itself this year adding an extra day for workshops. From CI/CD pipelines with Dagger, to GitOps with FluxOperator, Ray and Kubernetes for ML projects, Istio Service Mesh and many other exciting topics, no wonder the workshop day reached its full capacity.

Why feedback matters for open source

Diana Todea · 3 min read · Jan 7, 2025

My 2024 has been a year where I finally immersed myself in the open source realm. It has been on my mind for a while to start contributing to an open source project, however I wanted to pick the right project that resonated with my current on-going work.

Putting doubts aside, I was really impressed with OpenTelemetry's popularity and the fact that so many organizations already adopted it into their production environments. When I started drafting my GenerativeAI talk, I interacted with OpenTelemetry, APM and Elastic's Observability stack. Seeing how everything blended together was a great experience, so when the chance opened up to contribute to OpenTelemetry project, I jumped right into it.

OTCA certification from Linux Foundation has been released on the market just very recently. It is the first exam and certification covering the OpenTelemetry topic at its foundational level. I got the chance to contribute as a developer to OTCA exam, writing questions, double checking the documentation sources and putting myself in the shoes of a person who wants to get certified on OpenTelemetry. For me it has been the perfect opportunity to get closer to an open source project I admired from afar and interacting with the open source community.

OpenTelemetry project has a vast documentation with a tendency to get complicated really fast. Some parts are still developing and definitely are in need of developers' constant feedback. It's hard to perceive OpenTelemetry's level of difficulty from afar, you actually have to put your working gloves and deploy it. Later on in 2024, I had the chance to get my hands "dirty" with such an observability project and build the proof of concept for OpenTelemetry with several SDKs, documenting my experience in this article.

OpenObservabilitySummit and OTel Community Day 2025 recap

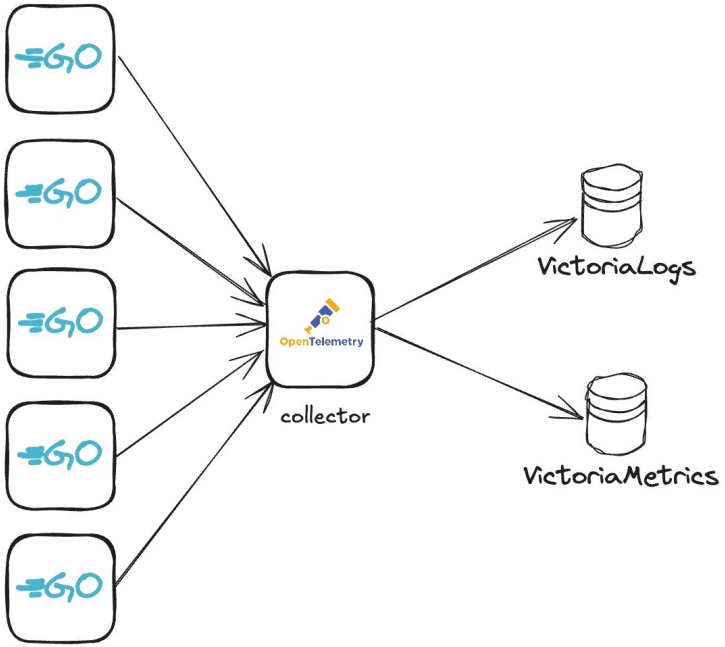
Diana Todea · 6 min read · Jun 30, 2025

Last Thursday in Denver, US, OTel Community Day event took place as part of the Open Observability Summit and it was a blast. I had the chance to participate with a lightning talk and learn about all the latest releases within the Open Observability realm.

Below, you can find the summary based on the sessions I participated at, the official videos will be released on the CNCF Youtube channel in a couple of weeks. The OTel Community Day had two parallel tracks and some of the presentations are already uploaded on the schedule page.

KubeCon Atlanta 2025: la encuentra con la comunidad OTel

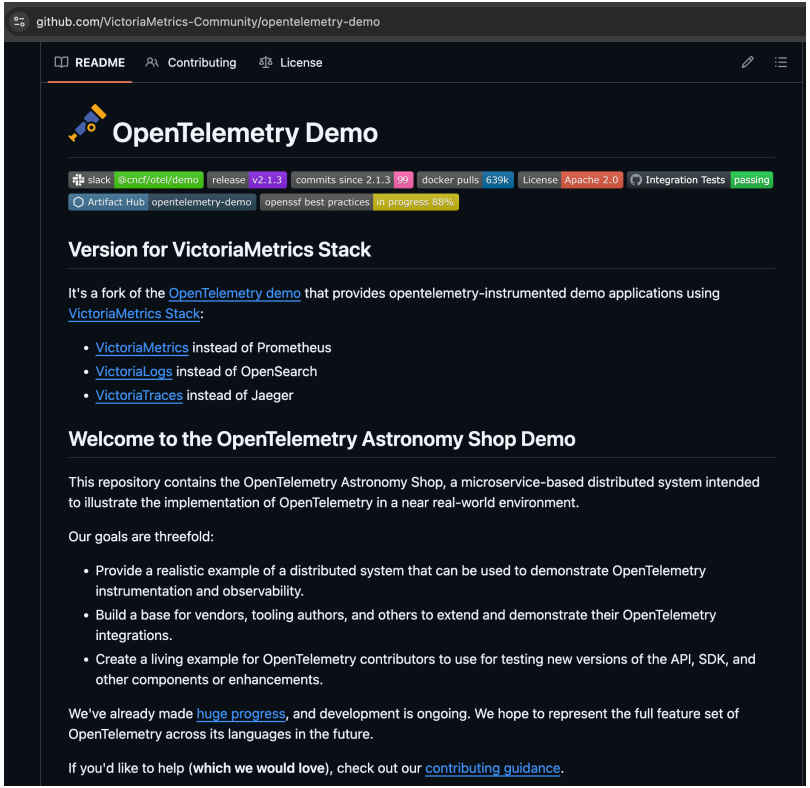
VictoriaMetrics + OpenTelemetry

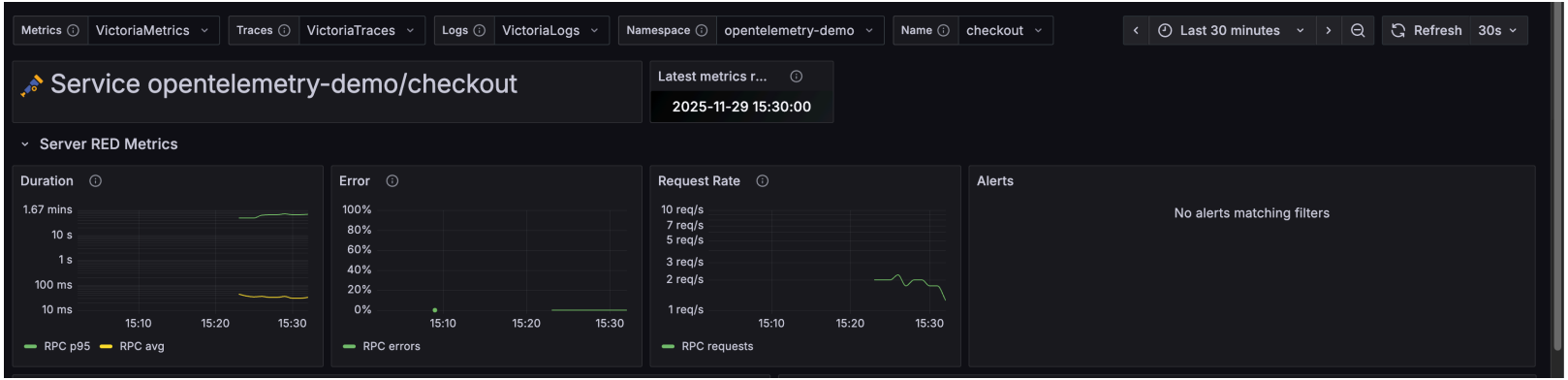


VictoriaMetrics and VictoriaLogs tienen soporte nativo para la ingestión de métricas y registros en el formato OTel.
Necesitas:
k8s cluster, kubectl, helm

VictoriaMetrics OTel Demo fork

☆https://github.com/VictoriaMetrics-Community/opentelemetry-demo





Logs

```
2025-11-29 15:31:36.619 Successful to write message. offset: 0, duration: 357.167µs
2025-11-29 15:31:36.618 sending to postProcessor
2025-11-29 15:31:36.618 order confirmation email sent to "reed@example.com"
2025-11-29 15:31:36.601 order placed
2025-11-29 15:31:36.591 payment went through
2025-11-29 15:31:36.567 [PlaceOrder]
2025-11-29 15:31:20.221 Successful to write message. offset: 0, duration: 345.375µs
2025-11-29 15:31:20.221 sending to postProcessor
2025-11-29 15:31:20.221 order confirmation email sent to "moore@example.com"
2025-11-29 15:31:20.201 order placed
2025-11-29 15:31:20.186 payment went through
2025-11-29 15:31:20.166 [PlaceOrder]
2025-11-29 15:30:50.693 Successful to write message. offset: 0, duration: 328.5µs
2025-11-29 15:30:50.692 sending to postProcessor
2025-11-29 15:30:50.692 order confirmation email sent to "bill@example.com"
2025-11-29 15:30:50.682 order placed
2025-11-29 15:30:50.679 payment went through
2025-11-29 15:30:50.647 [PlaceOrder]
2025-11-29 15:28:36.543 Successful to write message. offset: 0, duration: 84.625µs
2025-11-29 15:28:36.542 sending to postProcessor
2025-11-29 15:28:36.542 order confirmation email sent to "jeff@example.com"
2025-11-29 15:28:36.540 order placed
2025-11-29 15:28:36.538 payment went through
2025-11-29 15:28:36.530 [PlaceOrder]
2025-11-29 15:28:34.424 Successful to write message. offset: 0, duration: 403.458µs
2025-11-29 15:28:34.423 sending to postProcessor
```

Traces

Outline | VictoriaTraces | Split | Add | Last 1 hour | Run query

load-generator: user_checkout_multi POST 200

Feedback | Share

Trace ID 4ba1aeecdacd4f58feb1d588653e2385 | Start time 2025-11-29 15:31:36.528 (a minute ago) | Duration 99.76ms | Services 11 | Route /oteldemo.CartService/GetCart

Span Filters | 62 spans | Prev | Next

Service & Operation	0µs	24.94ms	49.88ms	74.82ms	99.76ms
load-generator user_checkout_multi (99.76ms)					
POST (60.99ms)	60.99ms				

POST

Service: load-generator | Duration: 60.99ms | Start Time: 37.24ms (15:31:36.565) | Child Count: 1 | Share

Logs for this span

Span attributes: error unset | http.method POST | http.status_code 200 | http.url http://frontend-proxy:8080/api/checkout | otel.scope.name opentelemetry.instrumentation.requests | otel.scope.version 0.59b0 | span.kind client

Resource attributes: host.name docker-desktop | os.type linux | service.namespace opentelemetry-demo | service.version 2.1.3 | telemetry.sdk.language python | telemetry.sdk.name opentelemetry | telemetry.sdk.version 1.38.0

frontend-proxy ingress (58.28ms)	58.28ms
router frontend egress (58.19ms)	58.19ms
frontend POST (58.4ms)	58.4ms
POST (56.13ms)	56.13ms
executing api route (pages) /api/checkout (55.71ms)	55.71ms
grpc.oteldemo.CheckoutService/PlaceOrder (53.32ms)	53.32ms
checkout oteldemo.CheckoutService/PlaceOrder (51.75ms)	51.75ms
prepareOrderItemsAndShippingQuoteFromCart (15.38ms)	15.38ms
oteldemo.CartService/GetCart (1.36ms)	1.36ms
cart POST /oteldemo.CartService/GetCart (407µs)	407µs
HGET (289µs)	289µs
checkout oteldemo.ProductCatalogService/GetProduct (411µs)	411µs
product-catalog oteldemo.ProductCatalogService/GetProduct (88µs)	88µs
checkout oteldemo.CurrencyService/Convert (2.6ms)	2.6ms
currency Currency/Convert (925µs)	925µs
checkout oteldemo.ProductCatalogService/GetProduct (238µs)	238µs
product-catalog oteldemo.ProductCatalogService/GetProduct (47µs)	47µs
checkout oteldemo.CurrencyService/Convert (685µs)	685µs

Tener en cuanta 👀 OTel Weaver y Injector

README | Code of conduct | Contributing | Apache-2.0 license | Security

OpenTelemetry Weaver

Observability by Design

Treat your telemetry like a public API

CI passing | codecov 78% | Security Audit passing | License Apache 2.0 | Slack #otel-weaver

OpenTelemetry Weaver helps teams build observability by design, enabling consistent, type-safe, and automated telemetry through semantic conventions. With Weaver, you can define, validate, and evolve your telemetry schemas, ensuring reliability and clarity across your systems.

What is Observability by Design?

Have you ever experienced:

- Broken alerts after a deployment because metric names changed?
- Complex, hard-to-understand queries due to inconsistent naming?
- Teams struggling to interpret unclear or undocumented signals?
- Missing critical instrumentation discovered only in production?

Observability by Design solves these problems by treating your observability signals (metrics, traces, logs) as a first-class public API that requires the same quality standards as your code.

An introduction to Weaver and Observability by Design is presented in the official blog post: Observability by Design: Unlocking Consistency with OpenTelemetry Weaver

README | Code of conduct | Contributing | Apache-2.0 license | Security

OpenTelemetry Injector

The OpenTelemetry injector is a shared library (written in Zig) that is intended to be used via the environment variable `LD_PRELOAD`, the `/etc/ld.so.preload` file, or similar mechanisms to inject environment variables into processes at startup.

It serves two main purposes:

- Inject an OpenTelemetry Auto Instrumentation agent into the process to capture and report distributed traces and metrics to the OpenTelemetry Collector for supported runtimes.
- Set resource attributes automatically, (for example Kubernetes related resource attributes and service related resource attributes in environments where this is applicable).

The injector can be used to enable automatic zero-touch instrumentation of processes. For this to work, the injector binary needs to be bundled together with the OpenTelemetry auto-instrumentation agents for the target runtimes.

Official RPM and DEB packages that contain the injector as well as the auto-instrumentation agents are available, and can be downloaded from the releases page. The OpenTelemetry injector Debian/RPM packages install the OpenTelemetry auto-instrumentation agents, the `libotelinject.so` shared object library, and a default configuration file to automatically instrument applications and services to capture and report distributed traces and metrics to the OpenTelemetry Collector

The `opentelemetry-injector` deb/rpm package installs and supports configuration of the following Auto Instrumentation agents:

- Java
- Node.js
- .NET

¡Construye tu propio viaje!

- ¡Tu motivación es tu superpoder!
- Diversifica tus aportaciones
-  contribuciones de código-sin código
- Apoyar a los demas: ser un mentor

MERGE FORWARD

We seek to empower underrepresented groups to become more visible and active community members.

- ➔ The "new home" for Community Groups
- ➔ #merge-forward on the CNCF Slack

Join us!

Merge Forward Groups

- Deaf and Hard of Hearing
- Blind and Visually Impaired
- Stuttering and Speech Diversity
- Neurodiversity
- Deep Roots
- Women in Cloud Native
- Friends of Dorothee

community.cncf.io/merge-forward/

Recursos

I played with OTel and I liked it

Why feedback matters for Open Source

https://opentelemetry.io/community/
https://training.linuxfoundation.org/certification/opentelemetry-certified-associate-otca/
https://github.com/open-telemetry/opentelemetry-injector
https://github.com/open-telemetry/weaver
https://play.victoriametrics.com/
https://play-vmlogs.victoriametrics.com/
https://play-vtraces.victoriametrics.com/
https://play-grafana.victoriametrics.com/dashboards
https://docs.victoriametrics.com/guides/getting-started-with-opentelemetry/
https://github.com/VictoriaMetrics-Community/opentelemetry-demo

Gracias!

Bsky: @didiviking.bsky.social
X: @dianavtodea
Github: @didiViking/Conferences_Talks
LinkedIn: @diana-todea-b2a79968