Observability Foundation[SM]

BLUEPRINT

DevOps Institute

Observability engineers deliver business value by building reliable systems and enabling faster Incident resolution through real-time telemetry.

Observability

Provides insights into the internal health of a distributed system, the failure modes, and the time context through external outputs which helps uncover systemic issues and builds automated IT operations.

SRE, DevOps and Observability

Observability is a key component of the DevSecOps lifecycle. Without good observability, SREs cannot perform chaos engineering, AIOps or faster root-cause analysis of incidents. Observability builds a secure DevSecOps culture.

DataOPs

DataOps is a discipline that will enable successful observability practices. As systems scale, and more insights are configured, adopting DataOps methodologies will establish a sense of ownership, lineage, and help build better observability in distributed ecosystems.

The Three Pillars

Metrics, Logs and Traces are the three pillars that help provide complete visibility of system health. Each pillar relates to the real-time performance and availability of the system. Traces provide insight into the flow of the application.

Benefits

Organization: Stable, reliable services, improved customer experience, culture of collaboration, faster incident resolution, and automated operations.

Individuals: Knowledge and skills for implementing secure, reliable and fault-tolerant systems, enhanced skills to instrument real-time telemetry and build automated operations.

AIOps

AIOps is the discipline of using observability data for building automation of IT operations. It is about using AI to automate and streamline operational workflows and build self-healing system resilience.

OpenTelemetry

With observability into traces, the source of the problem is easier to identify, even in distributed systems like microservices and containers. OpenTelemetry is an open source framework that provides a common mechanism for collecting critical application and infrastructure telemetry.

Time Travel Topology

While Metrics, Logs and Traces provide valuable insights on system health, in an auto-scaling distributed ecosystem, time becomes a critical component to measure change. Key observability trends use 4 Ts (Time, Topology, Traces and Telemetry).

Network and Security Observability

eBPF helps extract fine-grained data at low overhead, helping developers to trace components that are not instrumented using OS level network calls. The golden signals of network and container security are key in determining the overall resilience.