Training: DevOps Institute
Observability Foundation

PeopleCert

TRAINING GOALS:

Microservices and Cloud-Native architectures have been goals of many organizations to help increase speed and agility, but as complexity grows, systems become increasingly challenging to observe. When issues occur, these issues are often difficult to triage and identify the root causes. This course introduces a range of practices for advancing resilience and how to architect end-to-end Observability for Cloud-Native applications. The advantages of building full-stack metrics, events, logs, and distributed tracing are introduced, along with the impact of DevSecOps on Observability and how AIOPs enhance Observability capabilities. This course also covers how Network and Security Observability plays a key role in building reliability, the key aspects of security operations and automated responses are covered,

The course aims to equip participants with the practices, methods, and tools to engage people across the organization involved in Observability by using real-life scenarios and case stories. Upon completion of the course, participants will have tangible takeaways to leverage situations such as implementing MELT models effectively, that fit their organizational context, building distributed tracing and resiliency by design.

The course is developed by leveraging key experts in the fields of telemetry, sources of knowledge and engaging with thought-leaders in the Observability space, and working with organizations who have crossed the chasm of modern Observability to extract real-life best practices.

This course positions learners to successfully complete the Observability Foundation certification exam.

COURSE OBJECTIVES

At the end of the course, the following learning objectives are expected to be achieved:

- Practical view of how to successfully implement a flourishing Observability culture in your organization
- The underlying principles of Observability and an understanding why monitoring on its own will not provide the required results in microservices based containerized environments
- Understanding the three pillars of Observability
- Adopting open Telemetry standards helps achieve innovation and distributed tracing in a seamless manner
- Observability Maturity Model and the measurement of practical observability

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- Implementing full stack Observability and distributed tracing will enable a DevSecOps culture
- Curating Observability using AI to move from reactive to proactive and predictive incident management. Also, how you use DataOps to build a clean data lineage of observable data.
- Implementing Network, Container level Observability and why is security a first class citizen in building the Observability culture
- What is Time based Topology, and how does it add value in Observability for a distributed environment
- The Data paradox,and how we address data issues using a systematic approach (DataOps) to build a clean Observability pipeline
- How do we feedforward DevSecOps wisdom into Observability
- Observability practices for DevSecOps and SRE

AUDIENCE

The target audience for the Observability Foundation course are professionals including:

- Anyone focused on large-scale service scalability and reliability
- Anyone interested in modern IT leadership and organizational change approaches
- Business Managers
- Business Stakeholders
- Change Agents
- Consultants
- DevOps Practitioners
- IT Directors
- IT Managers
- IT Team Leaders
- Product Owners
- Scrum Masters
- Software Engineers
- Site Reliability Engineers
- System Integrators
- Tool Providers

CONSPECT:

- Module 1: Exploring Observability
  - What is Observability?
  - MELT

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- Importance of Observability
- Why Traditional Monitoring is not Enough
- Observability Maturity Model
- Challenges with Observability

- Module 2: Pillars of Observability
  - Defining telemetry
  - The Three Pillars of Observability - Logs, metrics, and traces
  - Distributed Traces
  - Parts of a Trace
  - Tracing: Error Diagnosis
- Module 3: Open Source Landscape for Observability
  - What is Observability made of?
  - OpenTelemetry
  - OpenTelemetry Libraries
  - OpenTelemetry Agents & Collection
  - The Rest of the Open Source Ecosystem
- Module 4: Service Maps and Topology
  - Service maps
  - Topology
  - Time Travel Topology
  - Escalation Graphs
  - The 4 Ts
- Module 5: DataOps Helps Get Observability Right
  - Observability and the Data Paradox
  - Why Observability need DataOps
  - Data Ownership and Governance
  - Data Privacy & Observability
  - Data Confidentiality, Integrity & Availability
  - Maintaining CIA Triad
- Module 6: Building Observability with AIOps
  - What is AIOps
  - AIOps Platforms
  - Enterprise Platform for AIOps
  - AI/ML Use Cases
  - Auto-Instrumenting Optimization
  - Feedforward CI/CD into AIOPs

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- Feedback AIOps into Quality Gates
- Module 7: Security and Networking with Observability
  - Observing Security
  - Monitoring Security with eBPF
  - Container Security
  - Network Observability
  - Visibility and Integration of various sources
- Module 8: Observability Practices for DevOps and SRE
  - Observability Indicators
  - Dashboards and Visualization
  - Chaos Engineering

REQUIREMENTS:

It is highly recommended that learners attend the SRE Foundation course with an accredited DevOps Institute Education Partner and earn the SRE Foundation certification prior to attending the Observability Foundation course and exam. An understanding and knowledge of common SRE terminology, concepts, principles and related work experience are recommended.

Difficulty level



CERTIFICATE:

Each participant receives a confirmation of completion an accredited training.

Successfully passing (65%) the 60-minute examination, consisting of 40 multiple-choice questions, leads to the Observability Foundation certificate. The certification is governed and maintained by DevOps Institute.

TRAINER:

Authorized PeopleCert Trainer

ADDITIONAL INFORMATION:

LEARNER MATERIALS

- Sixteen (16) hours of instructor-led training and discussion facilitation

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- Learner Manual (excellent post-class reference)
- Participation in unique exercises designed to apply concepts
- Sample exam
- Glossary
- Access to additional value-added resources and communities

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