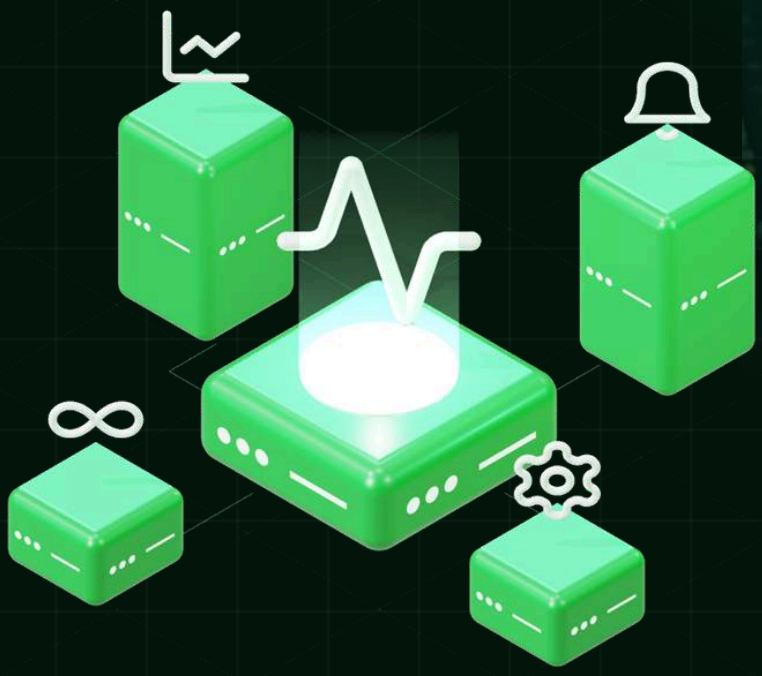
✦ DEVOPS & PLATFORM ENGINEERING · ADVANCED

Observability

See inside your systems.



56	8	SAM-OBSERV
HOURS	MODULES	CERTIFICATION

✦ INSIDE THIS BROCHURE

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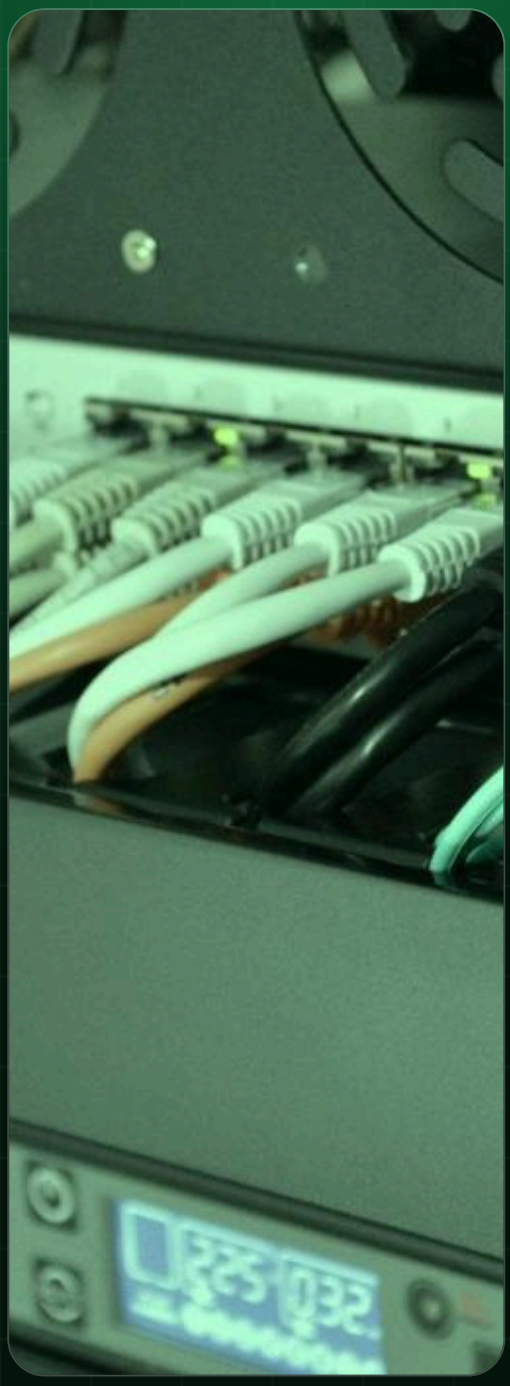
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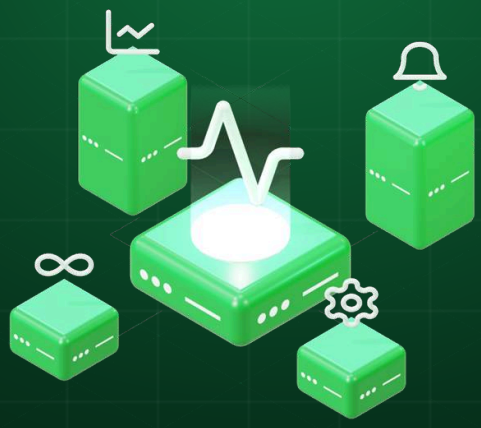


AT A GLANCE

Level	Advanced
Duration	56 Hours
Modules	8
Certificate	SAM-OBSERV

✦ PROGRAM OVERVIEW

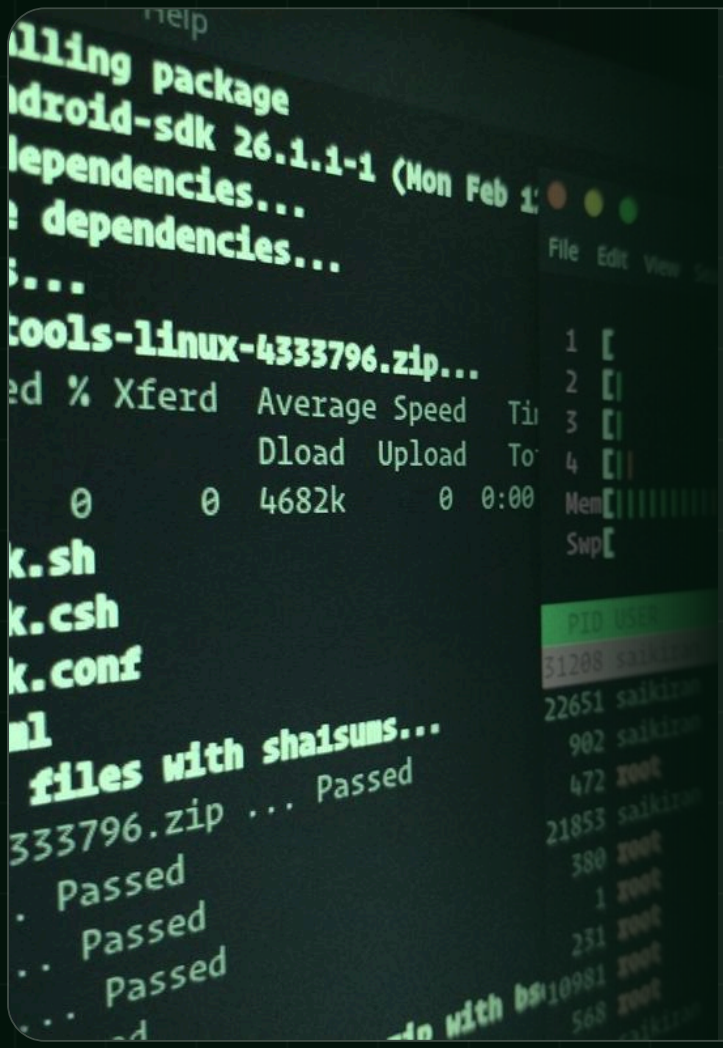
See inside your systems.



Metrics, logs and traces with Prometheus, Grafana and the ELK stack.

Distributed systems fail in unpredictable ways, and teams need clear signals to understand what is happening and why. This advanced program teaches you to collect metrics with Prometheus, visualise them in Grafana, centralise and search logs with the ELK stack, add distributed tracing with OpenTelemetry, and design meaningful alerts and SLO-based monitoring for cloud-native applications running on Kubernetes.

LEVEL	DURATION	CERTIFICATION	DELIVERY
Advanced	56 Hours	SAM-OBSERV	Instructor-led · Live virtual · Blended



✦ WHAT YOU'LL PRACTISE

Collect metrics with Prometheus	01
Build Grafana dashboards	02
Centralise logs with ELK	03
Set alerts and SLO monitoring	04

✦ WHO IT'S FOR

Built for people ready to grow.

01

Developers & sysadmins

DevOps, Linux and Git foundations

02

DevOps engineers

Docker, Kubernetes, Terraform, CI/CD

03

Platform teams

GitOps, Helm, Backstage, observability

04

Reliability leads

SRE practices and DevSecOps

PREREQUISITES

Working knowledge of Linux and Docker	01
Basic Kubernetes experience	02
Understanding of how web applications work	03

ROLES YOU CAN TARGET

- Observability Engineer ↗
- Site Reliability Engineer ↗
- DevOps Engineer ↗
- Monitoring Engineer ↗
- Platform Engineer ↗

✦ LEARNING OUTCOMES

What you'll be able to do.

01 Explain metrics, logs and traces and their trade-offs

02 Collect and query metrics using Prometheus and PromQL

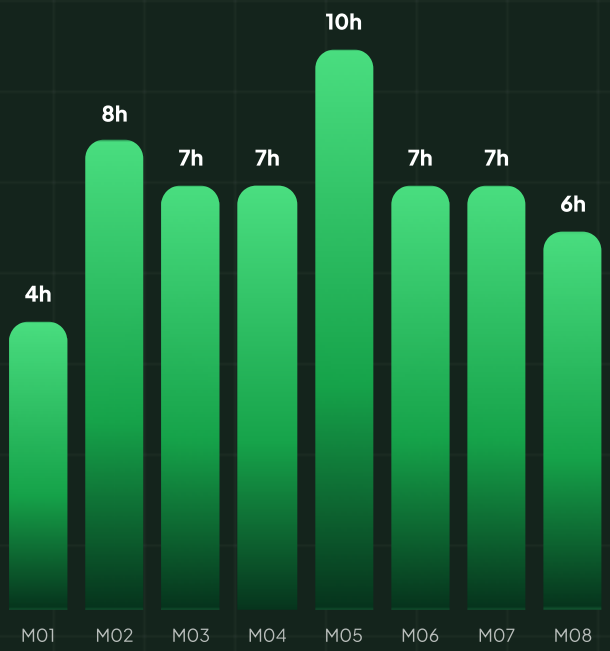
03 Build actionable Grafana dashboards for services and infrastructure

04 Centralise, parse and search logs with the ELK stack

05 Instrument applications for distributed tracing with OpenTelemetry

06 Design SLO-based alerts that reduce noise and fatigue

HOURS PER MODULE



✦ PROGRAM RUNWAY

Your journey, module by module.

8
MODULES · 56 HRS

01	**Observability Foundations** Monitoring versus observability, Metrics, logs and traces, RED and USE methods	4 hrs
02	**Prometheus Fundamentals** Prometheus architecture, Pull model and scrape configuration, Exporters such as node_exporter	8 hrs
03	**PromQL and Recording Rules** Metric types and labels, Selectors and range vectors, rate, sum and histogram_quantile	7 hrs
04	**Grafana Dashboards** Data sources and panels, Variables and templating, Dashboard design principles	7 hrs
05	**Logging with the ELK Stack** Elasticsearch indices and shards, Logstash pipelines and grok, Beats and Elastic Agent	10 hrs
06	**Distributed Tracing with OpenTelemetry** Traces, spans and context propagation, OpenTelemetry SDKs and auto-instrumentation, OpenTelemetry Collector pipelines	7 hrs
07	**Alerting and SLO Monitoring** Alertmanager routing and silencing, Symptom-based alerting, SLIs, SLOs and error budgets	7 hrs
08	**Kubernetes Observability at Scale** kube-prometheus-stack with Helm, Monitoring cluster components, Loki for Kubernetes logs	6 hrs
★	**Capstone · Full-Stack Observability Platform** Assessment, capstone review and certification	

✦ DETAILED CURRICULUM

The syllabus.

Modules 01–03

MODULE 01

Observability Foundations

4 hours

Hands-on lab
Choose golden signals and draft a monitoring plan for a sample service.

TOPICS COVERED

- Monitoring versus observability
- Metrics, logs and traces
- RED and USE methods
- Golden signals
- Cardinality and cost

MODULE 02

Prometheus Fundamentals

8 hours

Hands-on lab
Scrape node, container and application metrics with Prometheus exporters.

TOPICS COVERED

- Prometheus architecture
- Pull model and scrape configuration
- Exporters such as node_exporter
- Service discovery
- Instrumenting apps with client libraries

Prometheus

MODULE 03

PromQL and Recording Rules

7 hours

Hands-on lab
Write PromQL queries for latency percentiles, error rates and saturation.

TOPICS COVERED

- Metric types and labels
- Selectors and range vectors
- rate, sum and histogram_quantile
- Recording rules
- Query performance

LEARN BY DOING

8 guided labs, one in every module.



✦ DETAILED CURRICULUM

Syllabus, continued.

Modules 04–06

MODULE 04

Grafana Dashboards

7 hours

Hands-on lab
Build a templated service dashboard showing RED metrics per endpoint.

TOPICS COVERED

- Data sources and panels
- Variables and templating
- Dashboard design principles
- Dashboards as code
- Grafana alerting overview

Grafana

MODULE 05

Logging with the ELK Stack

10 hours

Hands-on lab
Ship and parse application logs into Elasticsearch and explore them in Kibana.

TOPICS COVERED

- Elasticsearch indices and shards
- Logstash pipelines and grok
- Beats and Elastic Agent
- Kibana search and visualisations
- Index lifecycle management
- Structured logging practices

Elastic Kibana Logstash

MODULE 06

Distributed Tracing with OpenTelemetry

7 hours

Hands-on lab
Instrument a microservice app with OpenTelemetry and trace a slow request.

TOPICS COVERED

- Traces, spans and context propagation
- OpenTelemetry SDKs and auto-instrumentation
- OpenTelemetry Collector pipelines
- Jaeger and Grafana Tempo
- Correlating traces with logs

Grafana

LEARN BY DOING

8 guided labs, one in every module.



✦ DETAILED CURRICULUM

Syllabus, continued.

Modules 07–08

MODULE 07

Alerting and SLO Monitoring

7 hours

Hands-on lab
Implement SLO burn-rate alerts routed through Alertmanager to Slack.

TOPICS COVERED

- Alertmanager routing and silencing
- Symptom-based alerting
- SLIs, SLOs and error budgets
- Multi-window burn rate alerts
- On-call friendly alert design

Slack

MODULE 08

Kubernetes Observability at Scale

6 hours

Hands-on lab
Deploy kube-prometheus-stack and Loki to monitor a Kubernetes cluster.

TOPICS COVERED

- kube-prometheus-stack with Helm
- Monitoring cluster components
- Loki for Kubernetes logs
- Long-term storage with Thanos or Mimir
- Observability cost control

Kubernetes · Helm · Prometheus



CAPSTONE

Full-Stack Observability Platform

✦ YOUR STACK

Tools you'll build with.

Real platforms and frameworks — the same stack modern teams ship with, practised in cloud-hosted labs.

Prometheus
Metrics & alerting

Grafana
Observability dashboards

Elastic
ELK / Elastic SIEM analytics

Kubernetes
Container orchestration

Kibana
Log visualisation & dashboards

Logstash
Log ingestion pipelines

Helm
Kubernetes packaging

Slack
Team collaboration



LAB ACCESS

24×7 cloud labs for the length of the program

✦ HANDS-ON WORK

Projects that prove you can do it.

01

Service Metrics Dashboard

Instrument an application with Prometheus client libraries and build Grafana dashboards showing latency, traffic, errors and saturation.

02

Centralised Logging Pipeline

Build an ELK pipeline that collects, parses and enriches logs from several services, with Kibana searches and lifecycle policies.

03

Tracing a Microservice App

Add OpenTelemetry tracing to a multi-service application and use traces to identify and explain a performance bottleneck.

CAPSTONE PROJECT

Full-Stack Observability Platform

Deliver complete observability for a Kubernetes microservices application: Prometheus metrics, Grafana dashboards, ELK or Loki logging, OpenTelemetry traces, SLO definitions and burn-rate alerts, plus an incident investigation walk-through using all three signals.

Real-world scenario · Mentor review · Portfolio ready



CERTIFICATION

SAM-OBSERV

Awarded on successful completion of the program assessments.

- MCQ assessments
- Practical lab evaluation
- Project & capstone review
- Final presentation



✦ HOW YOU LEARN

The SAM Learning Framework™

PHASE 01

S

Scenario

Real-world attack and use-case scenarios open every module.

PHASE 02

A

Apply

Hands-on lab work, CTF challenges and live projects.

PHASE 03

M

Master

Assessment, peer review and certification prep.

PHASE 04

M

Mentor

Post-program career guidance and support.

DELIVERY MODELS

- Instructor-Led (ILT)
- Virtual Instructor-Led
- Self-Paced Online
- E-Learning Licensing
- Blended Learning
- Corporate Onsite
- Bootcamp Intensive
- Hackathon / CTF
- Mentorship

✦ LEARNING PATH · DEVOPS & PLATFORM ENGINEERING

Where this program fits.

Beginner	Intermediate	Advanced	Expert
3 programs	6 programs	You are here	1 programs

BEFORE THIS

Docker Mastery	48 Hours
Kubernetes — From Zero to Hero	80 Hours
Terraform & Infrastructure as Code	56 Hours
Jenkins CI/CD Pipelines	48 Hours

UP NEXT

SRE — Site Reliability Engineering	80 Hours

CAREER ROLES

- Observability Engineer
- Site Reliability Engineer
- DevOps Engineer
- Monitoring Engineer
- Platform Engineer

✦ FAQS

Questions, answered.

Q01

Do I need prior experience to join?

This is an advanced program. You should be comfortable with Linux, Docker and basic Kubernetes concepts. No prior Prometheus, Grafana or ELK experience is required, as each tool is covered from its fundamentals.

Q02

How is the program delivered and scheduled?

Sessions are instructor-led and run as live virtual classes or in a blended format. Batch timings, including weekday and weekend options, are confirmed at enrolment, and session recordings and notes support revision between classes.

Q03

What certification will I receive?

Learners who complete the required labs, projects and final assessments receive the Samcommunity Academy SAM-OBSERV certificate. It records the skills you have demonstrated during the program and is awarded only after assessments are passed.

Q04

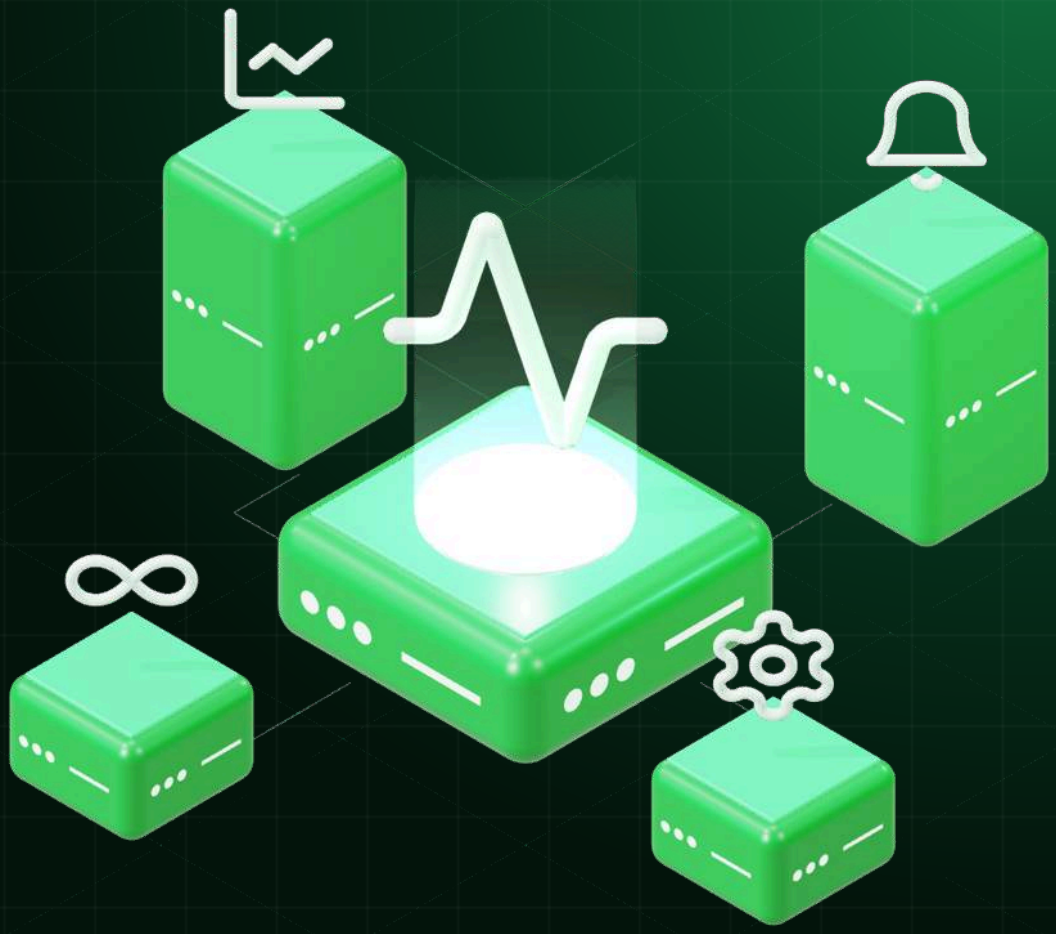
Will I get access to labs and tools?

Yes. You work with lab Kubernetes clusters and tools including Prometheus, Grafana, Alertmanager, Elasticsearch, Logstash, Kibana, OpenTelemetry, Jaeger and Loki. These have free or open source editions you can run locally.

Q05

Does the program include career support?

You receive guidance on building a portfolio from your projects, resume and profile review, and mock interviews focused on observability, SRE and DevOps roles. Career support helps you prepare, but jobs, interviews and salaries are not guaranteed.



✦ LET'S TALK

Start Observability with Samcommunity.

INDIVIDUALS

academy@samcommunity.in

Batches, enrolment & career guidance

CORPORATE & INSTITUTIONS

corporate@samcommunity.in

Team batches & custom programs

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