Course : Logging, monitoring, and observability in Google Cloud

Monitor, troubleshoot and improve infrastructure performance

Practical course - 2d - 14h00 - Ref. GK2
Price : 1930 € E.T.

With this training, you will learn techniques for monitoring and improving the performance of infrastructure and applications in Google Cloud. Through numerous hands-on exercises and real-world case studies, you will gain experience in comprehensive stack monitoring, real-time log management and analysis, debugging code in production, tracing application performance bottlenecks, and profiling CPU and memory usage.

Teaching objectives

At the end of the training, the participant will be able to:

- Present the objectives and capabilities of Google Cloud Operations
- Implement multi-project monitoring and configure alerts and availability checks
- Manage log collection (Ops Agent, VPC Flow Logs, Firewall Logs, Audit Logs)
- Analyze application performance (profiling and resource-intensive)
- Track and optimize costs related to monitoring and Google Cloud resources

Intended audience

Cloud architects, administrators, SysOps staff, cloud developers, DevOps staff.

Prerequisites

Ref. GCP training or equivalent experience. Basic knowledge of scripting or coding. Proficiency in command line tools and Linux environment.

Certification

Official course without certification.
Comment passer votre examen ?

PARTICIPANTS

Cloud architects, administrators, SysOps staff, cloud developers, DevOps staff.

PREREQUISITES

Ref. GCP training or equivalent experience. Basic knowledge of scripting or coding. Proficiency in command line tools and Linux environment.

TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

ASSESSMENT TERMS

Assessment of targeted skills prior to training.
Assessment by the participant, at the end of the training course, of the skills acquired during the training course.
Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.
At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.
An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.

Practical details

Teaching methods

Training in French. Official course material in English and digital format. Good understanding of written English.

Course schedule

1 Introduction to Google Cloud Operations

- Describe the purpose and features of the Google Cloud operations suite.
- Explain the purpose of Cloud Monitoring.
- Explain the purpose of Cloud Logging and Error Reporting.
- Explain the purpose of Application Performance Management tools.

2 Monitoring critical systems

- Use Cloud Monitoring to display metrics for multiple cloud projects.
- Explain the different types of dashboards and graphs that can be created.
- Create an availability check.
- Explain the architecture of cloud operations.
- Explain and demonstrate the purpose of using Monitoring Query Language (MQL) for monitoring.

3 Warning policies

- Explain alert strategies and policies.
- Explain the error budget.
- Explain why server level indicators (SLI) are important.
- Explain why Service Level Objectives (SLOs) are important.
- Explain why service level agreements (SLAs) are important.
- Identify the types of alerts and common uses for each.
- Use Cloud Monitoring to manage services.

4 Advanced logging and analysis

- Use Log Explorer functions.
- Explain the features and benefits of log-based metrics.
- Define log receivers (inclusion filters) and exclusion filters.
- Explain how BigQuery can be used to analyze logs.
- Export logs to BigQuery for analysis.
- Use Google Cloud log analysis.

5 Using audit logs

- Explain cloud audit logs.
- List and explain the different audit logs.
- Explain the features and functions of different audit logs.
- Identify best practices for implementing audit logs.

TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

6 Configuring Google Cloud services for observability

- Using the Ops Agent with Compute Engine.
- Activate and use Kubernetes monitoring.
- Explain the benefits of using Google Cloud Managed Service for Prometheus.
- Explain how to use PromQL to query Cloud Monitoring metrics.
- Explain the uses of open telemetry.
- Explain customized measures.

7 Google Cloud network and data access monitoring

- Collect and analyze VPC flow logs and firewall rule logs.
- Enable and monitor packet mirroring.
- Explain the capabilities of the Network Intelligence Center.

8 Survey on application performance problems

- Explain the features and benefits of Error Reporting, Cloud Trace and Cloud Profiler.
- Explain the functions of Error Reporting, Cloud Trace and Cloud Profiler.

9 Cost optimization for Operations Suite

- Analyze resource usage costs to monitor associated components in Google Cloud.
- Implement best practices to control the cost of monitoring within Google Cloud.

Dates and locations

REMOTE CLASS
2026 : 28 May, 30 July, 1 Oct., 26 Nov.

PARIS LA DÉFENSE
2026 : 28 May, 30 July, 1 Oct., 26 Nov.