

Course : Serverless Data Processing with Dataflow

Official course, preparation for Google Cloud certification exams

Practical course - 3d - 21h00 - Ref. SDD

Price : 2890 € E.T.

With this training course, you'll deepen your mastery of Dataflow to take your data processing applications to the next level. You'll discover how Apache Beam and Dataflow work together without the risk of vendor lock-in. You'll learn how to transform your business logic into Dataflow pipelines, then master the essential operations: supervision, troubleshooting, testing and reliability.

Teaching objectives

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

- ✓ Explain how Beam and Dataflow can be used together to process data efficiently
- ✓ Activate Portability, Shuffle/Streaming Engine and Flexible Scheduling to optimize costs and performance
- ✓ Choosing the right IAM access and applying good pipeline security practices
- ✓ Configure and optimize I/O, schemas, SQL/DataFrames to simplify and accelerate the pipeline
- ✓ Monitoring, testing, troubleshooting and CI/CD of Dataflow pipelines

Intended audience

Data engineers, data analysts and data scientists aspiring to develop data engineering skills.

Prerequisites

Have taken the course "Data Engineering on Google Cloud Platform" Ref DGC or have equivalent knowledge.

Certification

We recommend you take this course if you want to prepare for certification as a "Google Cloud Professional Data Engineer".

[Comment passer votre examen ?](#)

PARTICIPANTS

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PREREQUISITES

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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 digital format and in English. Good understanding of written English.

Course schedule

1 Beam portability

- Beam portability.
- Runner v2.
- Container environments.
- Inter-language transformations.

2 Separate calculation and storage with Dataflow

- Dataflow Streaming Engine.
- Flexible resource planning.
- Dataflow.
- Dataflow Shuffle service.

3 IAM, quotas and permissions

- IAM.
- Quotas.

4 Security

- Data localization.
- Shared VPC.
- private IP.
- CMEK.

5 Review of Beam concepts

- Beam bases.
- Utility transformations.
- DoFn life cycle.

6 Windows, watermarks, triggers

- Windows.
- Watermarks.
- Triggers.

7 Sources and Sinks

- Sources and Sinks.
- Text IO and File IO.
- BigQuery IO.
- Pub/Sub IO.
- Kafka IO.
- Bigtable IO.
- Avro IO.
- Splittable DoFn.

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.

8 Schematics

- Beam diagrams.
- Code examples.

9 Status and timers

- API State.
- API Timer.

10 Best practices

- Schematics.
- Management of unprocessable data.
- Error handling.
- AutoValue code generator.
- JSON data management.
- Use the DoFn lifecycle.
- Pipeline optimization.

11 Dataflow SQL and DataFrames

- Dataflow and Beam SQL.
- SQL windowing.
- Beam DataFrames.

12 Notebooks Beam

- Notebooks Beam.

13 Monitoring

- List of jobs.
- Job information.
- Job graph.
- Job metrics.
- Metrics Explorer.

14 Error logging and reporting

- Logging.
- Error Reporting.

15 Troubleshooting and debugging

- Troubleshooting process.
- Types of problems.

16 Performance

- Pipeline design.
- Data structure.
- Sources, Sinks and external systems.
- Shuffle and Streaming Engine.

17 Testing and CI/CD

- Overview of testing and CI/CD.
- Unit testing.
- Integration testing.
- Building artifacts.
- Deployment.

18 Reliability

- Introduction to reliability.
- Supervision.
- Geolocation.
- Disaster recovery.
- High availability.

19 Flex Templates

- Classic templates.
- Flex Templates.
- Using Flex Templates.
- Templates provided by Google.

Dates and locations

REMOTE CLASS

2026: 10 Mar., 16 June, 29 Sep., 1 Dec.

PARIS LA DÉFENSE

2026: 10 Mar., 16 June, 29 Sep., 1 Dec.