

Logging and Monitoring in the Cloud

Logging & Monitoring



The Google Ads API Developer Miniseries



Laura Chevalier

Developer Relations Engineer

Logging to the Cloud

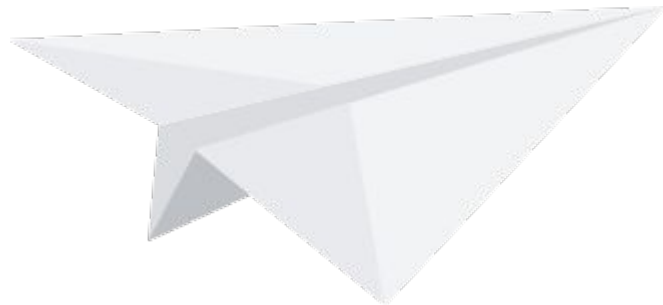
Benefits of Logging to the Cloud

- Scalability
- Security
- Monitoring
- Alerting



Sending Google Ads API Logs to the Cloud

There are several ways to get logs from your application to the Cloud.



Output logs locally and send via daemon

Write logs to a local file on your machine, and run a background process to send them to the Cloud.



Google Compute Engine with an Ops Agent

If you're running your application on a GCE instance, you can install and configure an Ops Agent to send your logs to the Cloud.



Implement Logging in your Application Code

Implement a logging interface or add individual logs statements throughout your application to send logs directly to the cloud as part of program execution.



Implement Logging in your Application Code

Implement a logging interface or add individual logs statements throughout your application to send logs directly to the cloud as part of program execution.*

*Full request and response logs aren't available from the application code.



Implement a Custom gRPC Interceptor

Intercept gRPC request and response objects and send them to the Cloud by passing a custom interceptor into your Google Ads API service instances.



Implement a Custom gRPC Interceptor

Intercept gRPC request and response objects and send them to the Cloud by passing a custom interceptor into your Google Ads API service instances.*

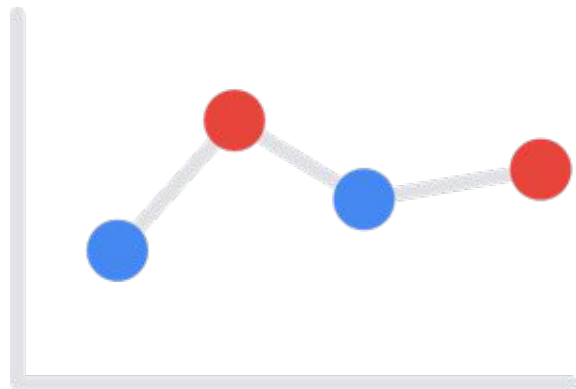


*Might not yet be available in your chosen language.

Application Monitoring

Performance Metrics

Identify which metrics you will use to measure latency and throughput.



Example Latency Metrics

- Request duration
- Request duration at subsystem granularity
(such as API calls)
- Job duration

Example Throughput Metrics

- Queries per second
- Size of data transferred per second
- Number of I/O operations per second
- Resource utilization
- Processing backlog size

Log-Based Metrics

Identify which information in your logs you will extract as metrics.



Example Log-Based Metrics

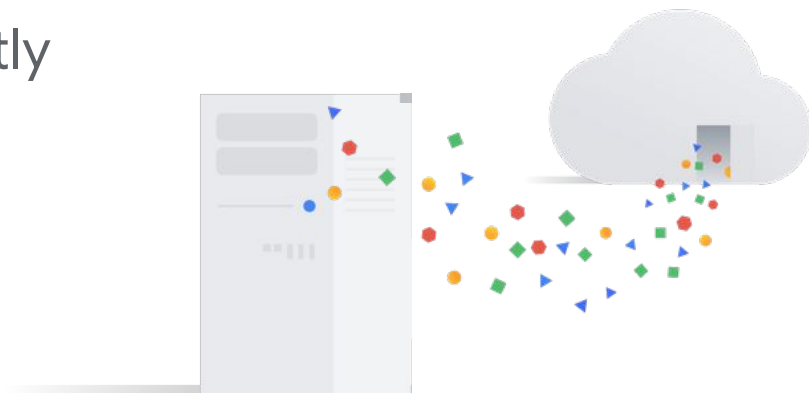
- Error count
- Request count
- Request size

Example Logs-Based Metrics Segmentation

- Error count segmented by error type
- Request count segmented by Google Ads API service
- Request size segmented by customer ID

Exporting Metrics Directly from your Application

Metrics can also be exported directly from your application, for example, by using [Cloud Monitoring client libraries](#).



Google Cloud Logging x Google Cloud Monitoring

With Google Cloud Monitoring, you can build dashboards and alerts directly on top of your data in Google Cloud Logging.



Example Logging and Monitoring

1. Capture the `elapsed_time` of each request in your application.
2. Configure a new metric based on the `elapsed_time` value.
3. Create a dashboard to monitor `elapsed_time` per service.
4. Configure alerting based on the `elapsed_time` values.

Thanks for Watching!

- We welcome your feedback at googleadsapi-support@google.com.
- See more episodes on our [YouTube channel](#).

Additional Resources

- <https://cloud.google.com/products/operations>
- <https://cloud.google.com/stackdriver/docs/solutions/agents/ops-agent>
- <https://cloud.google.com/logging/docs/reference/libraries>
- <https://cloud.google.com/monitoring/custom-metrics/creating-metrics>
- https://github.com/googleads/google-ads-python/blob/main/examples/custom_logging_interceptor/cloud_logging_interceptor.py