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Exposing logs from ancillary activities

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What’s the problem?

> A CI pipeline could have tasks carried out by ancillary services accessed through APIs from the main build or test activity.

> Such tasks can be modeled using Eiffel activities with CONTEXT links to the main activity.

> How can we expose the logs of these activities?

- Via an API endpoint so they can be copied to the parent activity’s log?
- Have each activity store its own logs and serve them via another endpoint?
- Have each activity upload its own logs to some other storage?

Suggested solution

- Logs from our services are always fed to Elasticsearch. Let’s use that!
- When making a service Eiffel-aware, make sure it includes the activity id as a discrete log field.
- Then, write a service that takes activity ids as input, searches Elasticsearch, and serves the results.
- Let this service have a well-defined URL schema and have services create and include such URLs in their ActS and ActF events.

https://logs.example.com/eiffel?eiffel_activity=55e99498-6b64-463d-9a4c-29ce323628b8

Bonus: Multi-format logs possible as of Lyon edition

```
{
  "data": {
    "liveLogs": [
      {
        "name": "Activity log",
        "uri": "https://logs.example.com/...&format=plain",
        "mediaType": "text/plain"
      },
      {
        "name": "Activity log",
        "uri": "https://logs.example.com/...&format=html",
        "mediaType": "text/html"
      },
      ...
```

Pros and cons

Pros

- Doesn’t require clients to have direct access to the underlying data, nor access to Kibana.
- You could filter which fields are returned to clients.
- Very inexpensive for services that implement activities.
- Live logs and persistent logs work the same.

Cons

- Assumes you’re already collecting the logs to Elasticsearch (or similar). But you should be.
- Assumes you have sufficiently long retention times for your logs.
- Logs could be displayed out of order (mostly mitigated with the new date_nanos type).

Next steps

Implementation start in the next couple of months?

Will be open source.

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Protect
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