Logging Best Practices in the CI/CD Era

A Guide for Modern Infrastructure

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Agenda

» Formats – unstructured Vs JSON
» Log severity definition
» Logging best practices
» Alerts: why you need them
» Alerts: How to properly define
» Alerts: to push or not to push
» Logging to enhance your CICD
» Benchmark versions
» The power of logs for custom metrics generation
» A new approach towards logging
» Bonus: why logs are called logs?

Format

Why JSON?

» Easier to filter and group

» Easier to visualize

» Easily read

» Supported by most coding languages and loggers

Why JSON

Example log:
```
1) Ariel, 29, 33 Bilu, Tel-Aviv, Israel, 2012-09-28
2) Lior, 32, 110 Ben Gurion, Herzelia, Israel, 2012-09-29
```

We want to find all users who are 29 years old:
```
$ grep 29 file.log | cut -d , -f 2 |sort |uniq -c |sort -nr
```

What do we get?
```
1) Ariel, 29, 33 Bilu Sharet, Tel-Aviv, Israel, 2012-09-28
2) Lior, 32, 110 Ben Gurion, Herzelia, Israel, 2012-09-29
```

Log severity definition

» Debug/Verbose – *'Number of messages in the user creation queue = 3482'*

» Info – *'Money transaction completed successfully'*

» Warning – *'Received illegal character for username – "Jame$",ignoring char'*

» Error – *'Failed to execute query for user ID 3424098'*

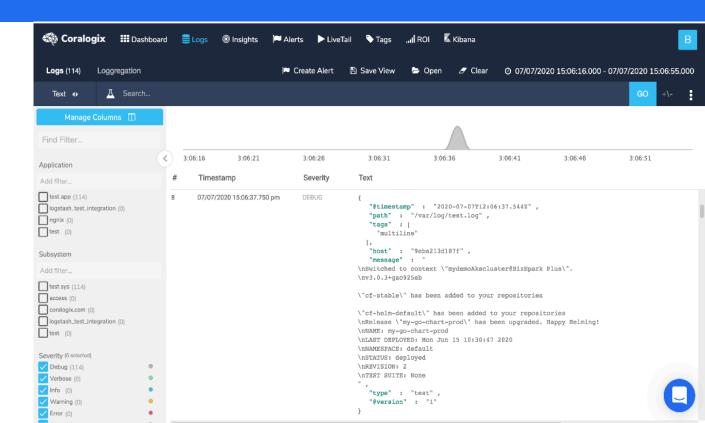» Critical/Fatal – *'No connection to DB, failed to register user'*

Logging best practices

» Log communications between components – Microservices, spot instances.

» Log communications with external API's

» Add valuable metadata to your logs

» Remember that you are not the only one reading these logs

» Combine textual and metric fields

Alerts

» Why you need them
» How to properly define alerts
» The different types of alerts
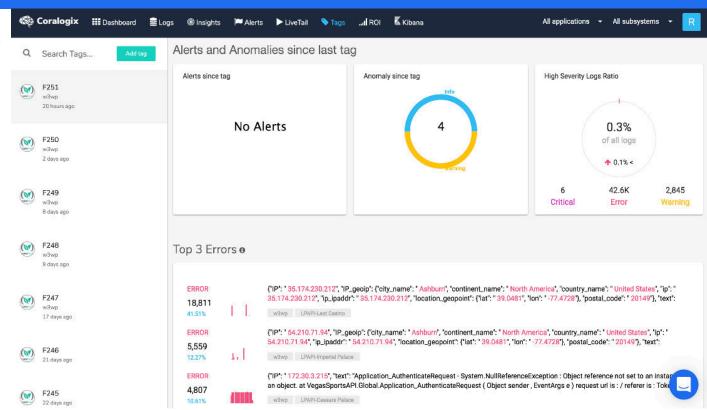» Creating the right structure for alert handling
» To push, or not to push.

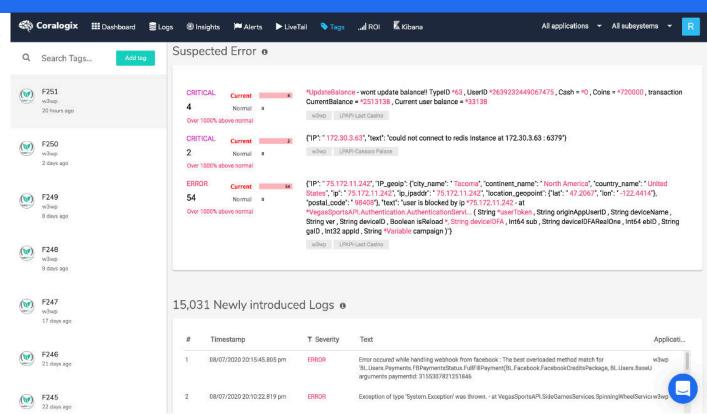# Logging to enhance your CICD

» What to collect
» How to use

Logging to enhance your CICD

» What to collect
» How to use

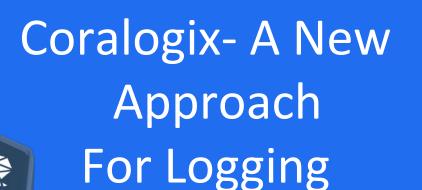# Logging to enhance your CICD

» What to collect
» How to use

Benchmark versions

» What do we look for after a deployment
» How to handle issues
» The feedback loop

Log2Metric

» The limitation of time series DBs
» Why do we need custom metrics
» Why are logs the answer

Coralogix- A New Approach For Logging

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Questions?

(Want to know why are logs called logs? Hit us on our chat at Coralogix.com)