

# Kibana APM – Application Performance Monitoring

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# Agenda

- Kibana APM – Overview
- Integrating it with Elastic stack
- Sending metrics to elasticsearch – Elastic APM Agent
- Case scenarios
- Analysing slow methods – Extra topic

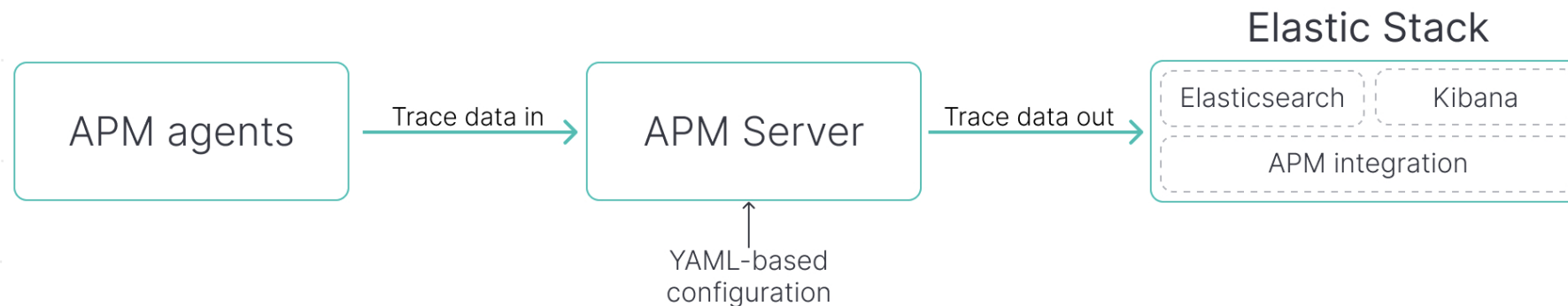


# Kibana APM – Overview

- Application Performance Monitoring (APM)
- Analysis in real-time, by collecting data via agent
- Metrics:
  - Response time – HTTP request, DB queries, methods execution, etc..
  - Queries execution
  - External HTTP call
  - Errors/Exceptions
- Similar apps:
  - New relic
  - Dynatrace APM
  - Datadog APM

# Integrating it with Elastic stack – APM Server

- APM Server
  - Install an APM server
  - Connect it with the Kibana/Elasticsearch server
  - Start to send metrics to APM server via Elasticsearch agent
- No need any additional component apart from elastic stack
- Self-managed option





# Sending metrics to elasticsearch – Elastic APM Agent

- Javaagent flag – manual setup
  - Manually set the javaagent setup flag into your java command
  - Requires changes on JVM arguments, also requires to restart it
  - `java -javaagent:/path/to/elastic-apm-agent-<version>.jar <APM_CONFIG>`
  - <https://www.elastic.co/guide/en/apm/agent/java/current/setup-javaagent.html>
- Programmatically API
  - Doesn't require JVM options changes
  - Requires code changes
  - Maven Lib: `apm-agent-attach`
  - <https://www.elastic.co/guide/en/apm/agent/java/current/setup-attach-api.html>



# Case scenarios

- 3 simple cases scenarios for show case;
- Simple metrics – without any special “case” on it
- Analysing and identifying N+1 issue with APM
- Multi-services connection, service A calling service B via rest



# Questions



# References

- <https://www.elastic.co/guide/en/apm/guide/current/apm-quick-start.html>
- <https://www.elastic.co/guide/en/apm/guide/current/getting-started-apm-server.html>
- <https://www.elastic.co/guide/en/apm/agent/java/current/setup.html>
- <https://www.elastic.co/guide/en/apm/agent/java/current/java-method-monitoring.html>





# Analysing slow methods – Extra topic

- Another advantage of APM is to analyse slow methods
- We should take care not to impact our app performance during runtime and startup
- Can be done into different ways:
  - Base profiler: <https://www.elastic.co/guide/en/apm/agent/java/current/method-sampling-based.html>
  - API/Code: <https://www.elastic.co/guide/en/apm/agent/java/current/method-api.html>
  - Annotations: <https://www.elastic.co/guide/en/apm/agent/java/current/method-annotations.html>
  - Configuration-based: <https://www.elastic.co/guide/en/apm/agent/java/current/method-config-based.html>