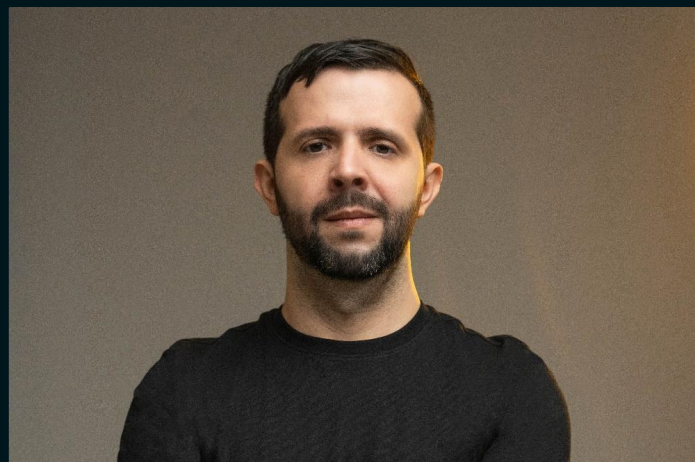




HOUSTON
WE HAVE PROBLEMS WITH THE QUERIES

HEISENBUG CONFERENCE 2023



ANDRES SACCO



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andres-sacco



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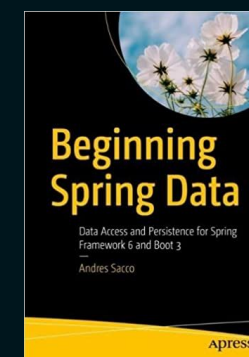
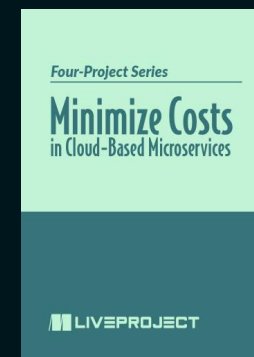
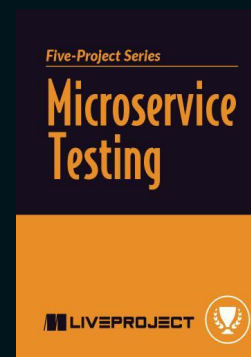
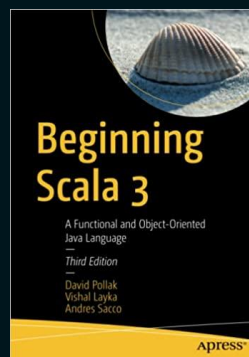
ABOUT ME

I've worked as developer since 2007 using different languages like Java, Kotlin, Scala, PHP, and NodeJS.

I've participated as a Technical Reviewer of Packt, Apress, and Manning books.

I published books, courses, and different theoretical-practical projects.

I participated as speaker on different conferences on Latin-American.



> CONTEXT

You have a microservice which have performance issues

AN ENDPOINT TAKES
MORE TIME TO RESPOND

INCREASE THE USE OF
RESOURCES



INCREASE THE LATENCY
IN ALL THE PLATFORM

IT IS NOT SIMPLE TO
FIND THE PROBLEM

> HOW TO FIND THE PROBLEM?



END-TO-END

TEST THE ENTIRE LOGIC TO
FIND THE PROBLEM

PERFORMANCE

TO CHECK THE PERFORMANCE
OF THE ENDPOINT

APM

TOOLS LIKE NEWRELIC OR
ELK TO SEE THE TRACES

LOGS

TO SHOW THE TIME ON EACH
LAYER OR SECTION

> WHY THESE APPROACHES COULD FAIL?



DIFFICULT TO FIND



DIFFICULT TO
UNDERSTAND

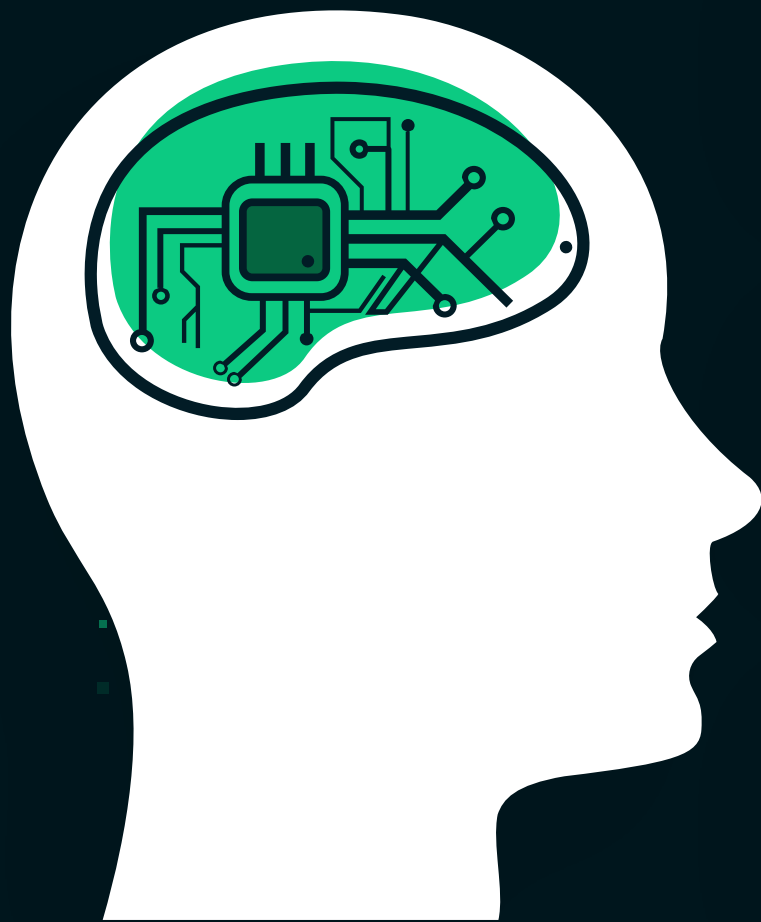


DIFFICULT TO CHECK
NOT OCCURS AGAIN

> WHICH TOOLS EXIST TO CHECK AND TEST?

MAIN DIFFERENCES		JFRUNIT	QUICKPERF	GATLING JMETER
01	DETECT PROBLEM ON PERFORMANCE	✓	✓	✓
02	SIMPLE TO IMPLEMENT	✓	✓	✓
03	CHECK PROBLEM ON QUERIES	✗	✓	✗
04	HAVE A BIG LEVEL OF DETAIL ON MORE THAN ONE LANGUAGE	✓	✓	✗
05	SUPPORT APPLICATION OR TESTING LIBRARIES	✗	✓	✗
06	RUNNING OUTSIDE OF THE APPLICATION	✗	✗	✓

PROS/CONS OF USE QUICKPERF



SHOW YOU WHERE IS
THE PROBLEM



YOU CAN VALIDATE
THE NUMBER OF
QUERIES



INTEGRATE WITH
FRAMEWORKS LIKE
SPRING BOOT



CHECK THE CONSUME
OF RESOURCES



NEED ACCESS TO A
DATABASE



COULD BE NOT
IDEMPOTENT



> EXAMPLE

Let's see an example



<https://github.com/andres-sacco/houston-problem>

> BEST PRACTICES

ALWAYS HAVE TESTS

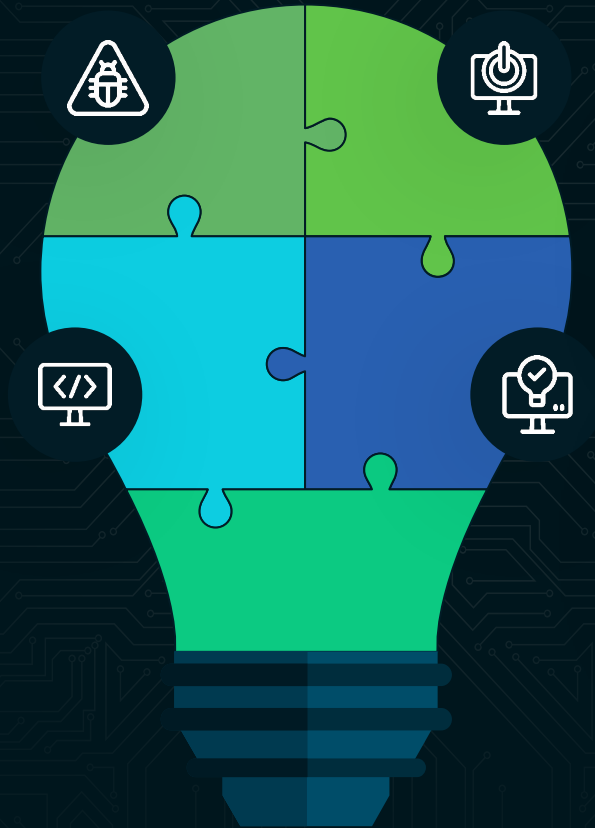
CREATE TESTS FOR EACH
COMPLEX QUERY

CHECK WITH YOUR DBA

IF YOU HAVE ANY DOUBTS SEND
THE QUERY TO YOUR DBA

RUN THE QUERY TESTS

RUN THE TESTS IN A PIPELINE



CREATE PERFORMANCE TESTS

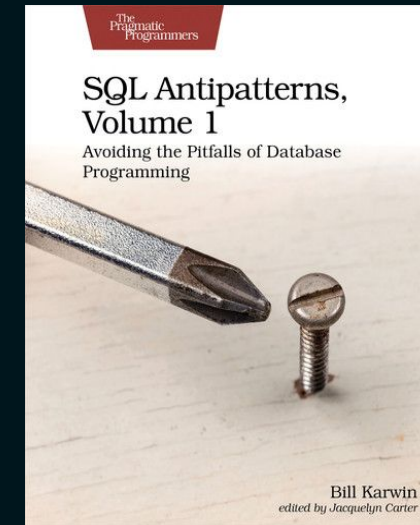
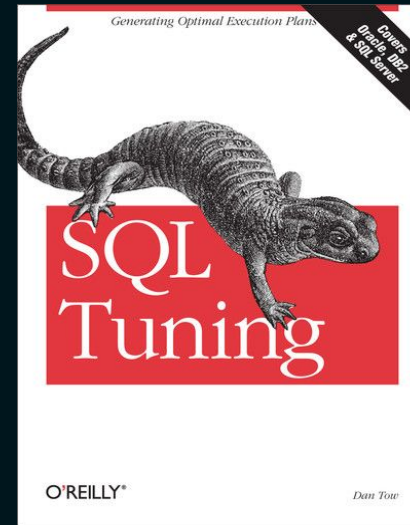
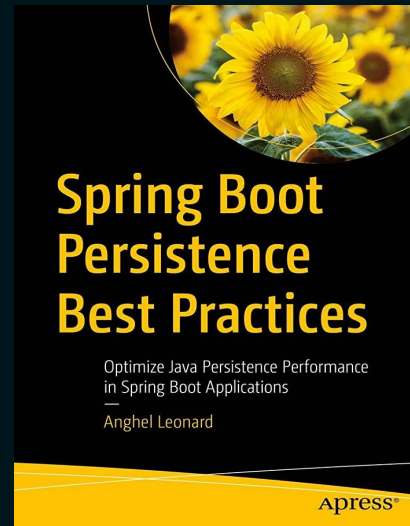
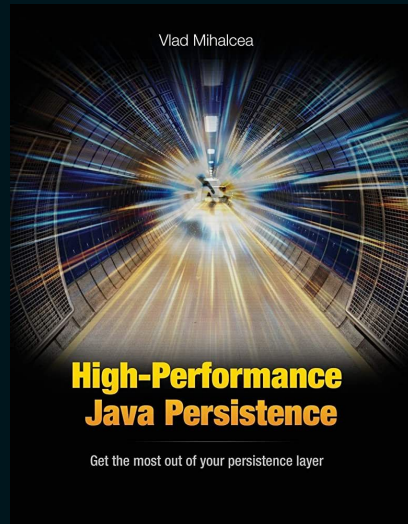
IT IS A GOOD WAY TO
DETECTED PROBLEMS

DEFINE ALERTS

CREATE ALERTS FOR PROBLEMS
ON THE PERFORMANCE

> ADDITIONAL RESOURCES

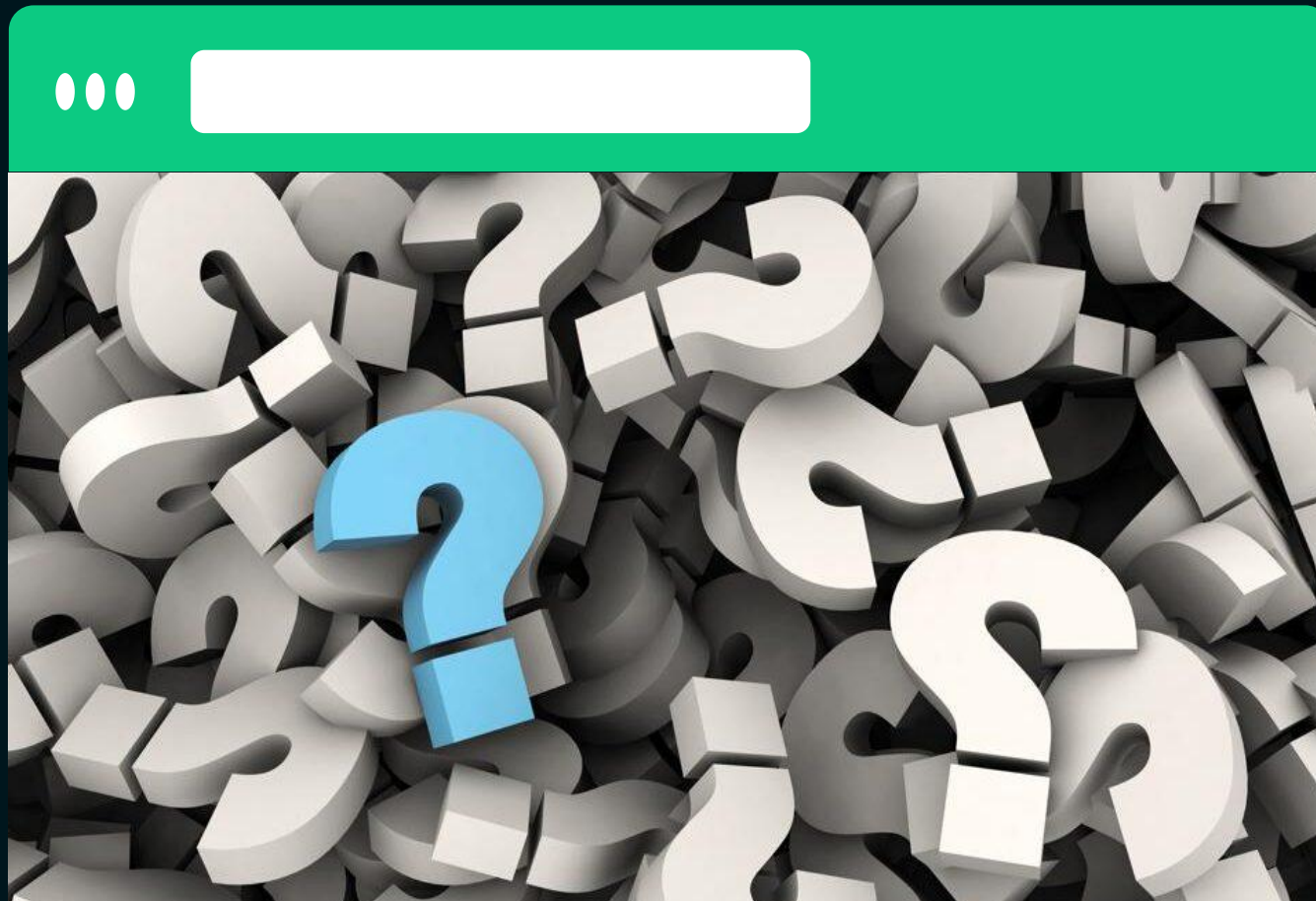
BOOKS



BLOGS

<https://vladmihalcea.com/>

> QUESTIONS





THANKS

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