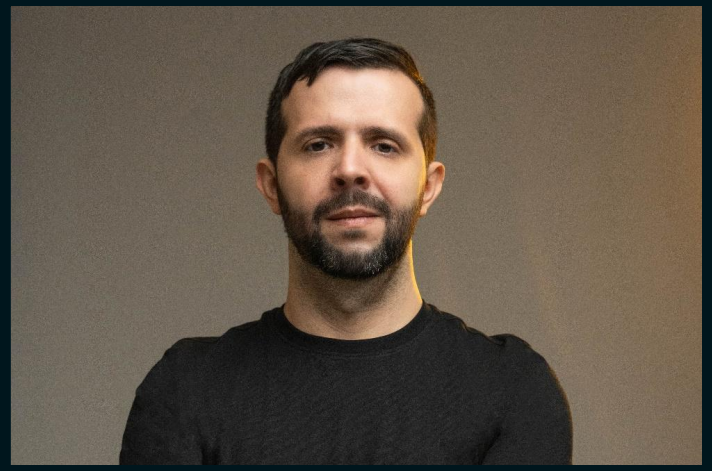
DON’T REMOVE THE API

FLOW 2023



ANDRES SACCO

saccoandres

andres-sacco

sacco.andres@gmail.com

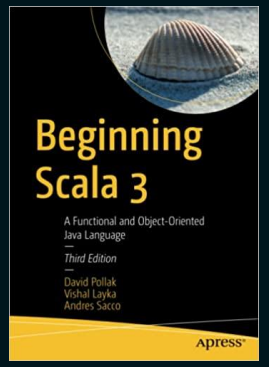
ABOUT ME

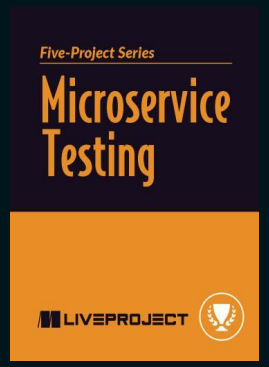
I've worked as developer since 2007 using different languages like Java, Kotlin, Scala, PHP, and NodeJS.

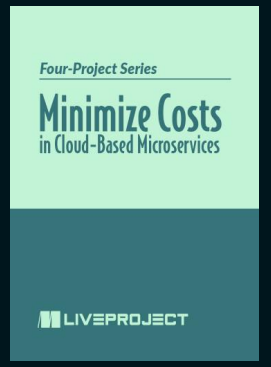
I've participated as a Technical Reviewer of Packt, Apress, and Manning books.

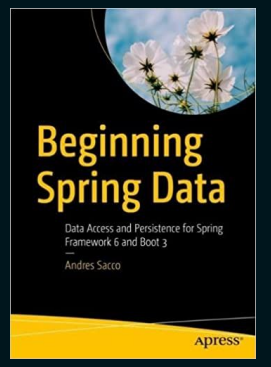
I published books, courses, and different theoretical-practical projects.

I participated as speaker on different conferences.









FLOW 2023

> CONTEXT

You have a big and old microservice that you want to deprecate because

- IT'S TOO OLD AND DIFFICULT TO MAINTAIN
- HAVE PERFORMANCE ISSUES

- CONTAIN A LOT OF ENDPOINTS IN ONE PLACE
- YOUR TEAM NOT HAVE THE KNOWLEDGE ABOUT THE LANGUAGE

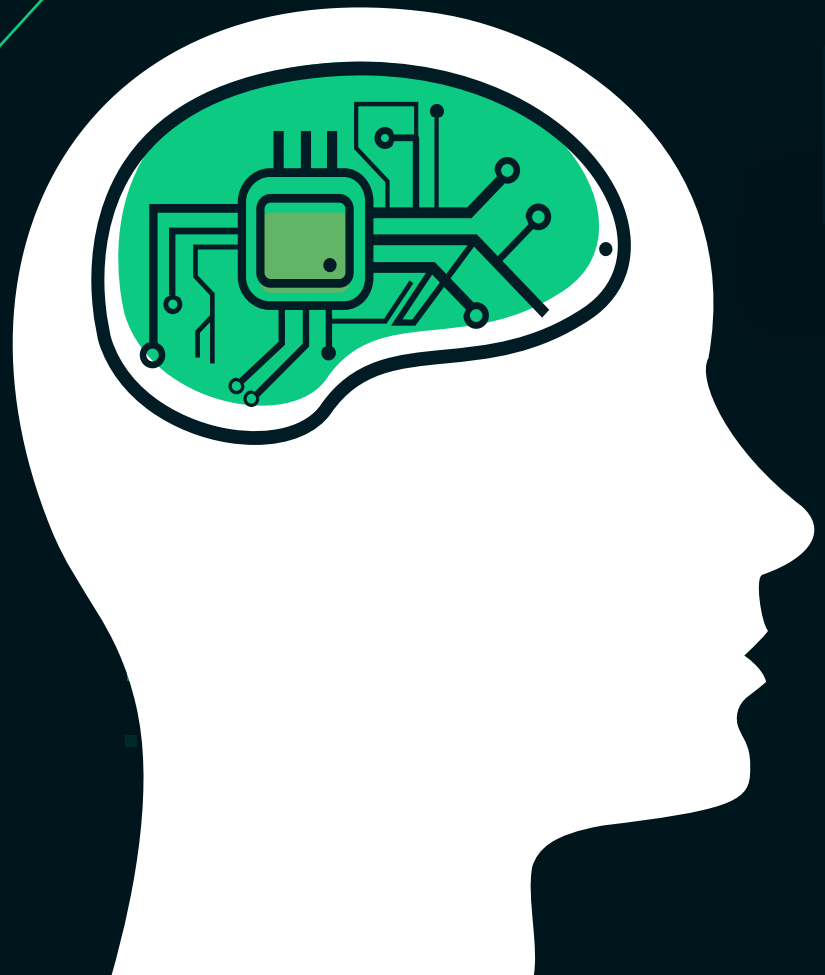
FLOW 2023

> WHAT THINGS YOU NEED TO CONSIDER?

It's not simple because there are some situations to consider

- DON'T HAVE INFORMATION ABOUT WHICH ARE CONSUMERS
- IT'S DIFFICULT TO MEASURE THE IMPACT OF THE CHANGES
- IT'S DIFFICULT TO MAINTAIN BOTH MICROSERVICES
- IT'S THE FIRST TIME THAT YOUR TEAM DO A MIGRATION

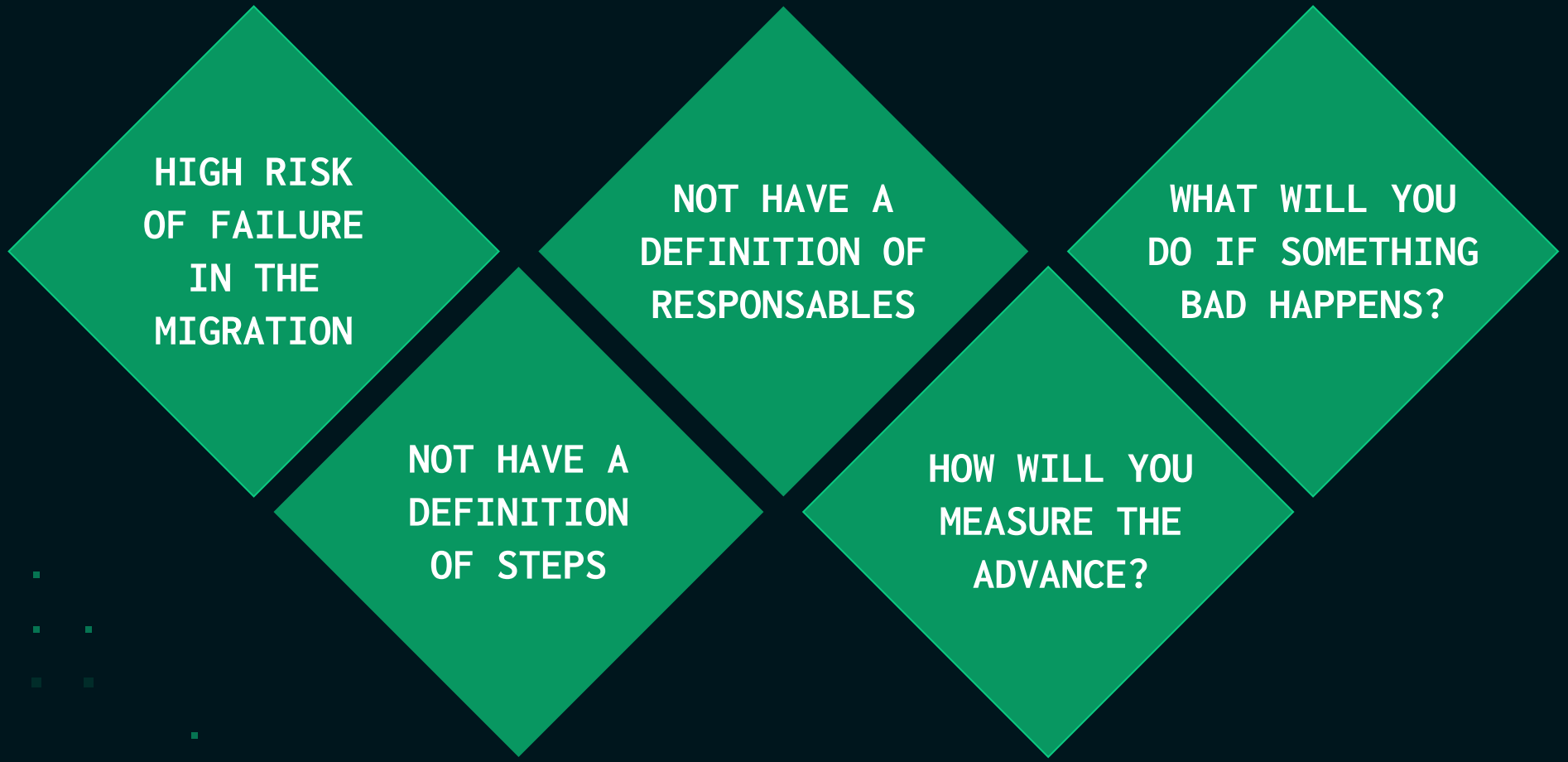
> WHY CAN A MIGRATION FAIL?



- NOT HAVE A PLAN TO FOLLOW
- BAD COMMUNICATION WITH THE CONSUMERS
- BAD A STRATEGY TO DO THE MIGRATION

FLOW 2023

> WHICH IS THE IMPACT OF NOT HAVE A PLAN?



> WHAT IMPLIES A BAD COMMUNICATION?

NO COMMUNICATION TO THE CONSUMERS ABOUT THE PLAN

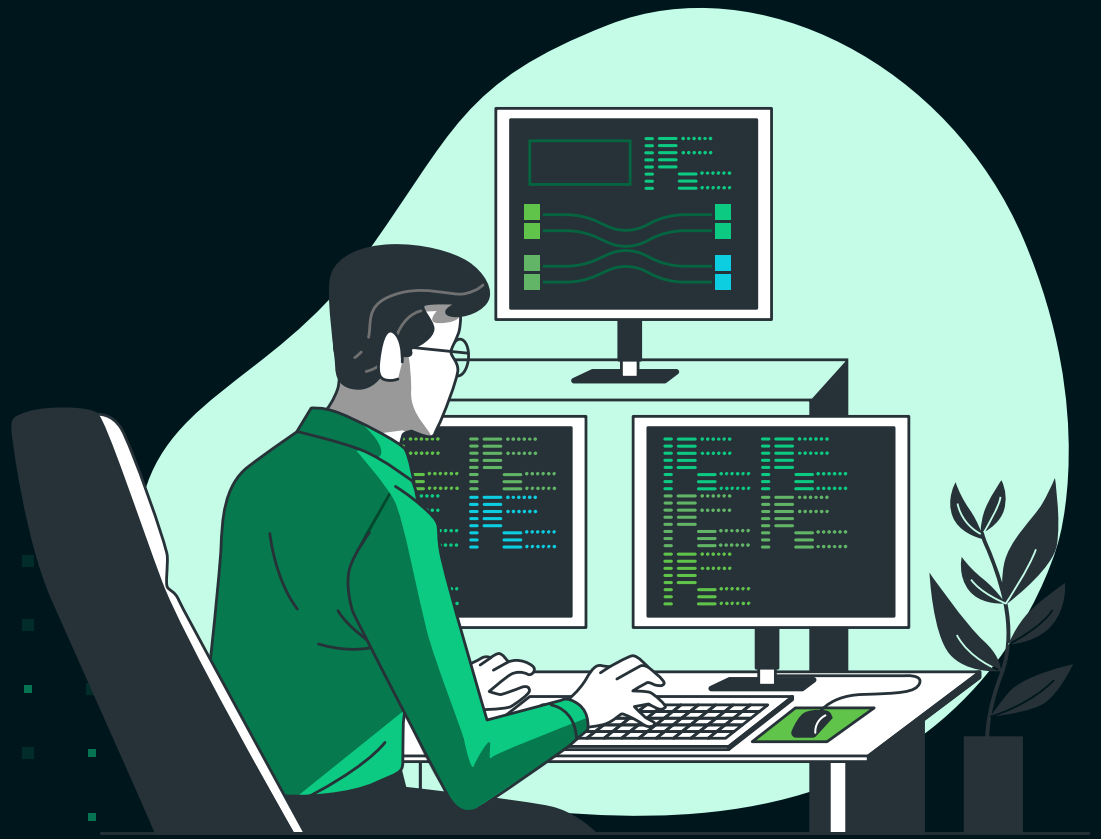
NO DEFINE A DEADLINE FOR THE CONSUMERS

NOT FOLLOWING THE ADVANCES OF THE PROCESS

NOT DOCUMENTING THE PROCESS WELL

FLOW 2023

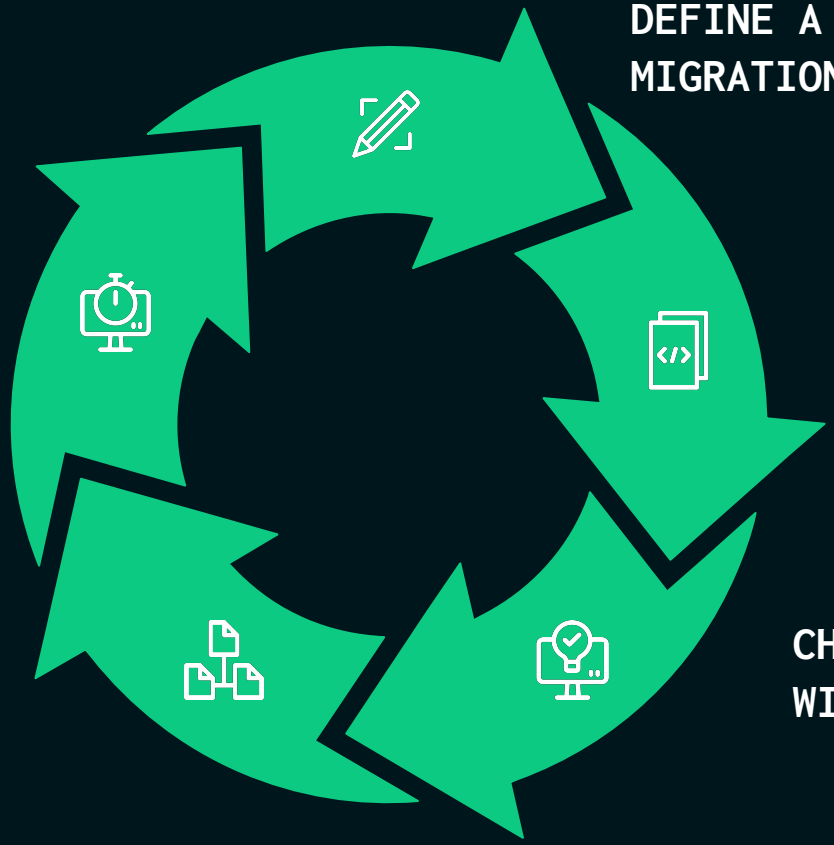
> WHAT IMPLIES A BAD STRATEGY?



- SET UNREALISTIC EXPECTATIONS TO MIGRATE
- CREATE THE MICROSERVICE WITH A WRONG APPROACH
- CHOOSE A WRONG STACK OF TECHNOLOGIES
- NOT CHECKING THE NEW MICROSERVICE
- CONTINUE RECEIVING REQUESTS

> HOW TO SUCCEED IN A MIGRATION?

The process of migration has five steps



DEFINE A PLAN TO DO THE MIGRATION

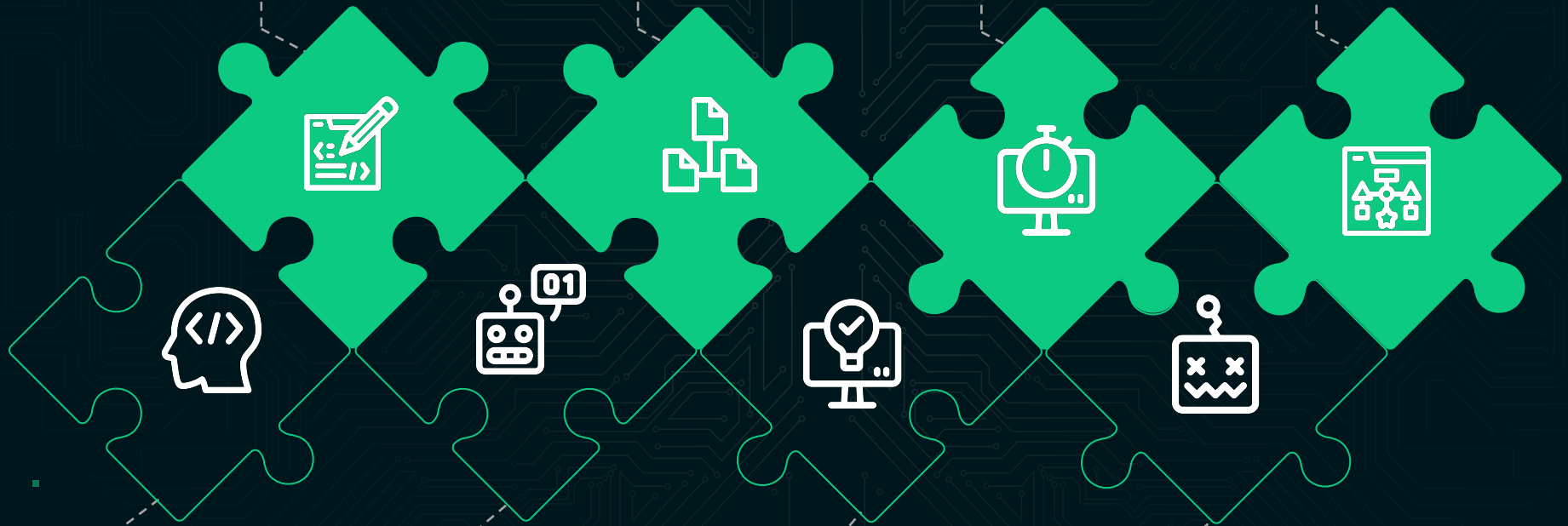
CREATE THE MICROSERVICE

CHECK THE NEW MICROSERVICE WITH THE OLD ONE

NOTIFY/CHECK THE CONSUMERS

DEPRECATED THE OLD MICROSERVICE

DEFINE A PLAN TO DO THE MIGRATION



DEFINE THE GOAL OF THE MIGRATION

> *"If you do a big-bang rewrite, the only thing you're guaranteed is a big-bang"*
>
> MARTIN FOWLER

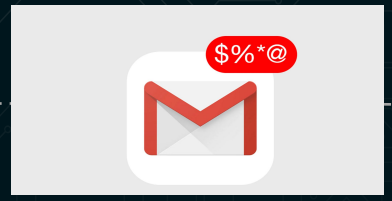
HOW TO FIND THE CONSUMERS?

There is no unique way to find all the consumers, the analyst needs to use multiples

USING APM TO DETECT THE INTERNAL CONSUMERS

CHECK THE LOGS TO DETECT SOME HIDDEN CONSUMERS

USE OTHER TOOLS THAT COULD CONTAIN VALUABLE INFORMATION



FLOW 2023

DEFINE THE DEADLINES

The deadlines need to split it on different types of consumers.

FOR EARLY ADOPTERS

Define some consumers that could be good candidates to become the first adopters.

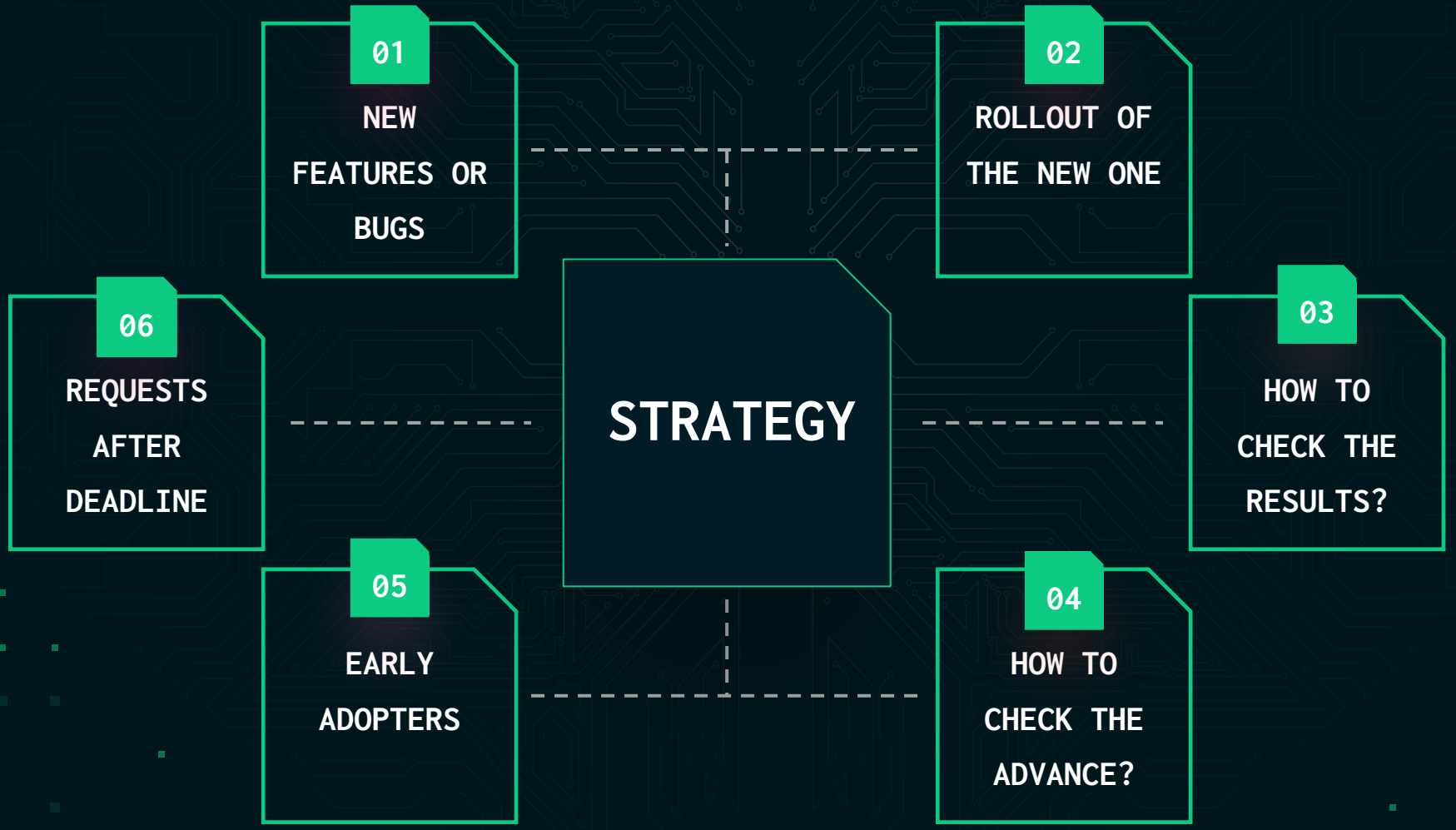
FOR INTERNAL CONSUMERS

This implies all the teams inside your company.

FOR EXTERNAL CONSUMERS

This implies all the teams outside your company need to be more flexible.

WHAT THINGS CONSIDER ON THE STRATEGY?



WHO ARE THE RESPONSABLES?

WHO TRACKS THE ADVANCE?

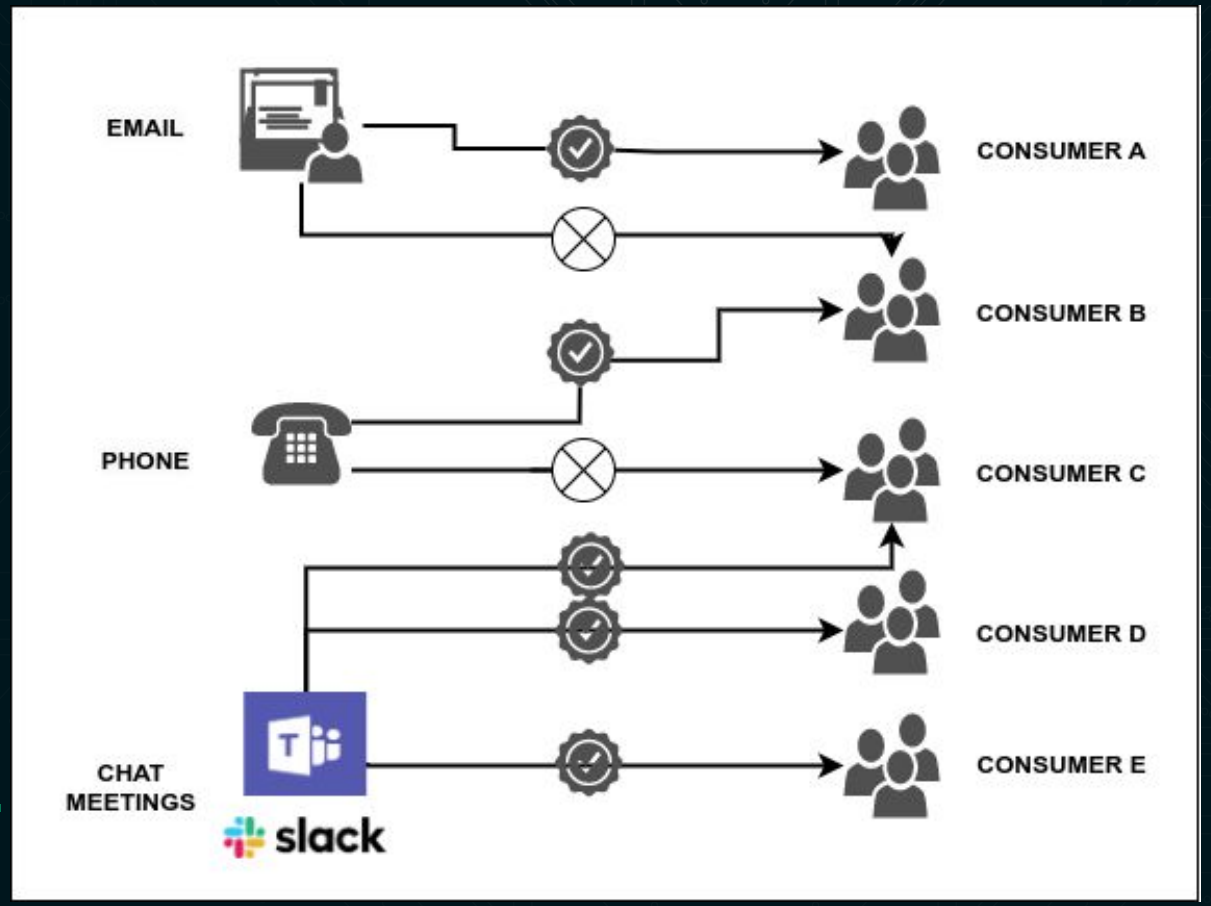
WHO COMMUNICATES WITH THE CONSUMERS?

WHO CREATES THE TECHNICAL DOCUMENTATION?

HOW MANY PEOPLE NEED TO BE RESPONSIBLE?

DEFINE THE COMMUNICATION'S METHODS

You need to define a set of methods depending on the consumers



TRACK THE ADVANCES

DEFINE THE FREQUENCY TO CHECK THE ADVANCE

DEFINE WHO IS THE RESPONSIBLE FOR EACH CONSUMER

DEFINE THE TOOL OR STRATEGY TO VERIFY THE ADVANCE

DEFINE THE DEPRECATION PROCESS

You need to consider different aspects before doing the deprecation

Send final notification to your consumers

Throw exceptions on the unused endpoints

Stop the microservice on the non-productive environments

Reject or redirect all the request

Stop the microservice on the productive environments

CREATE AND CHECK THE MICROSERVICE

Depending of your strategy you will check all together or each endpoint

ANALYZE AND CREATE

Define the endpoints with the request and response

VALIDATE THE ENDPOINTS

Validate everything before to document the process

DOCUMENT THE PROCESS

Explain with detail the process of migration

DEPLOY OR ROLLOUT

Depending of the strategy upload the changes to production

FLOW 2023

NOTIFY/CHECK THE CONSUMERS

This part is the one the most relevant on the plan

COMMUNICATE USING DIFFERENT METHODS

DETECT POSSIBLE PROBLEMS TO FOLLOW THE PLAN

GENERATE MEETINGS WITH THE TEAM

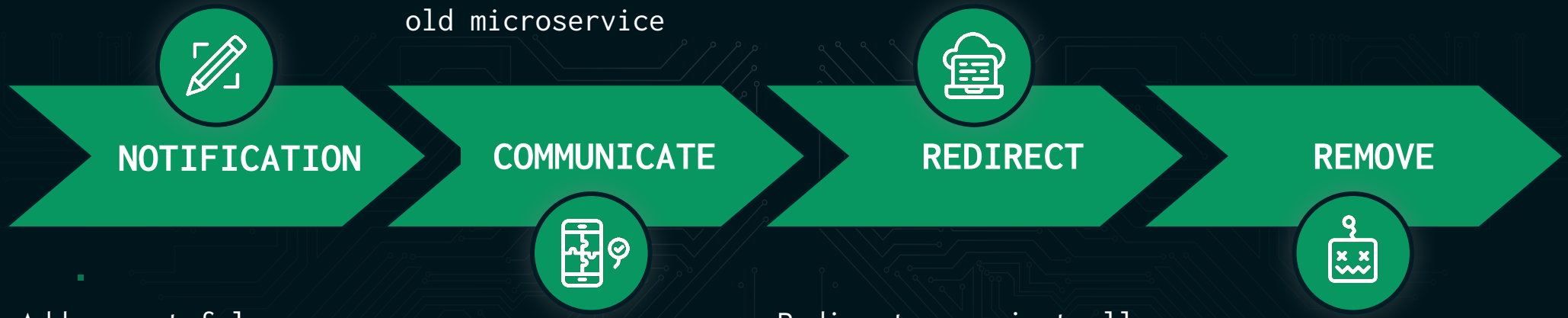
REGISTER THE ADVANCE OF EACH CONSUMER

ADJUST DOCUMENTATION AND DEADLINES

FLOW 2023

DEPRECATED THE OLD MICROSERVICE

After some weeks, months or years you will **deprecate the old microservice**



Add a grateful notification using the headers on all the responses

Send a notification to all the consumers about your plan to remove the old microservice

Redirect or reject all the requests to the old microservice

Remove the old microservice from your infrastructure

BEST PRACTICES

CREATE A PLAN

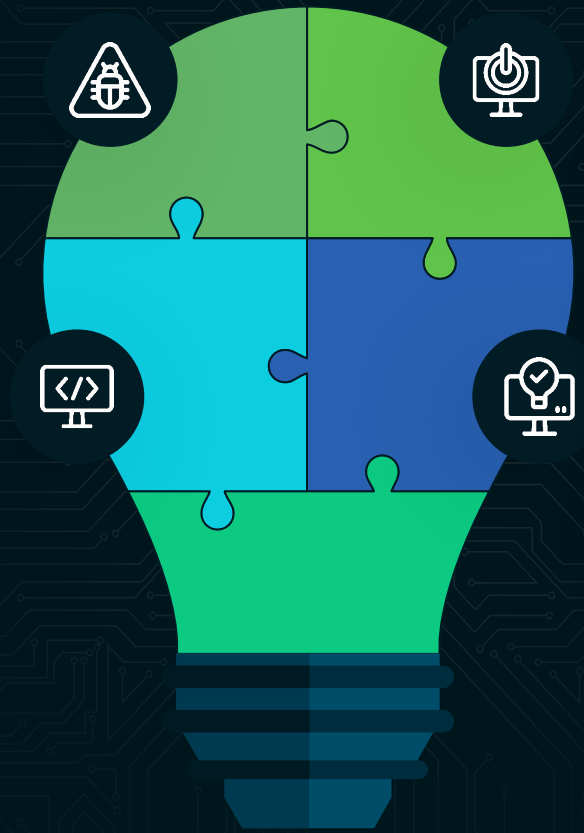
DEFINE A PLAN WITH ALL THE STEPS

REQUIRE CONFIRMATION

CONSUMERS NEED TO CONFIRM THAT THEY RECEIVE INFO

ADJUST THE PLAN

CHANGE THE DEADLINES IF SOMETHING BAD HAPPENS



STOP SLOW

NO STOP ON ALL ENVIRONMENTS TOGETHER

NOT ALL IS REQUIRED

CREATE/CHECK COULD BE OPTIONAL ON THE PLAN

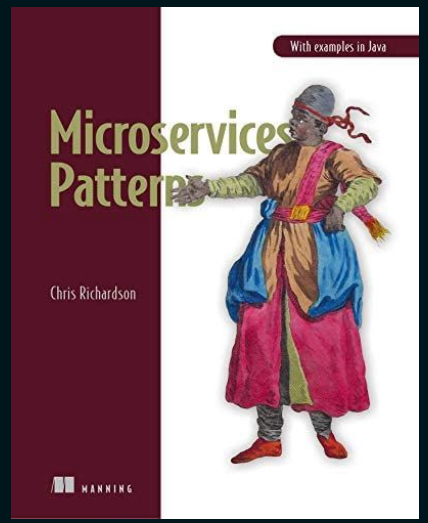
RESPONSIBILITIES

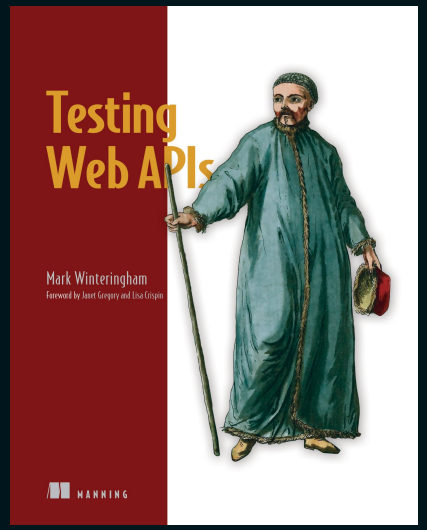
MORE THAN ONE PERSON NEED TO BE RESPONSIBLE

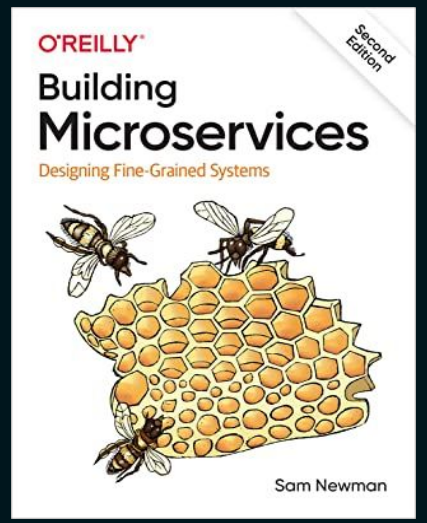
FLOW 2023

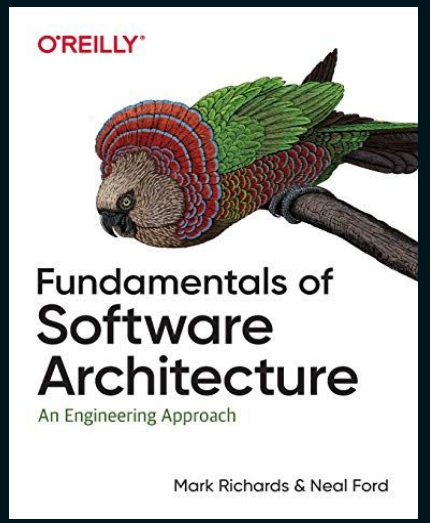
ADDITIONAL RESOURCES

BOOKS









BLOGS

https://www.ministryoftesting.com/

https://martinfowler.com/

https://www.developertoarchitect.com/

https://microservice-api-patterns.org

THANKS

FLOW 2023