

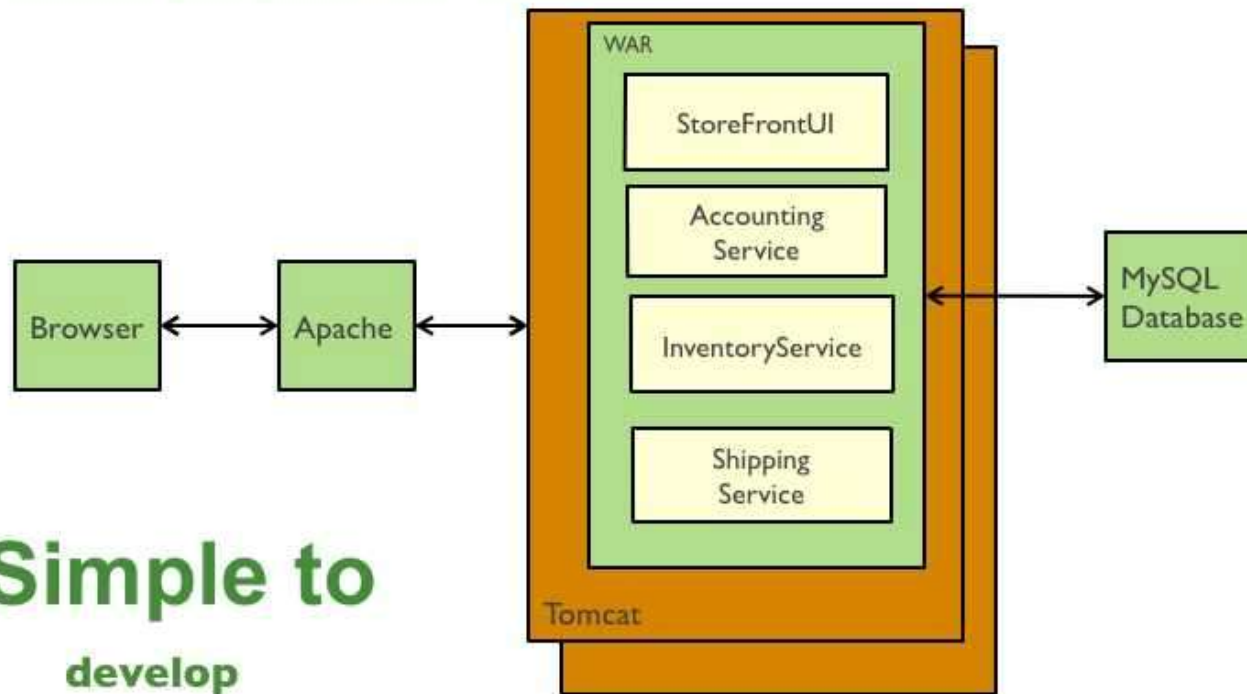


Programmazione distribuita

P2 - Microservizi

Monolithic

Traditional web application architecture



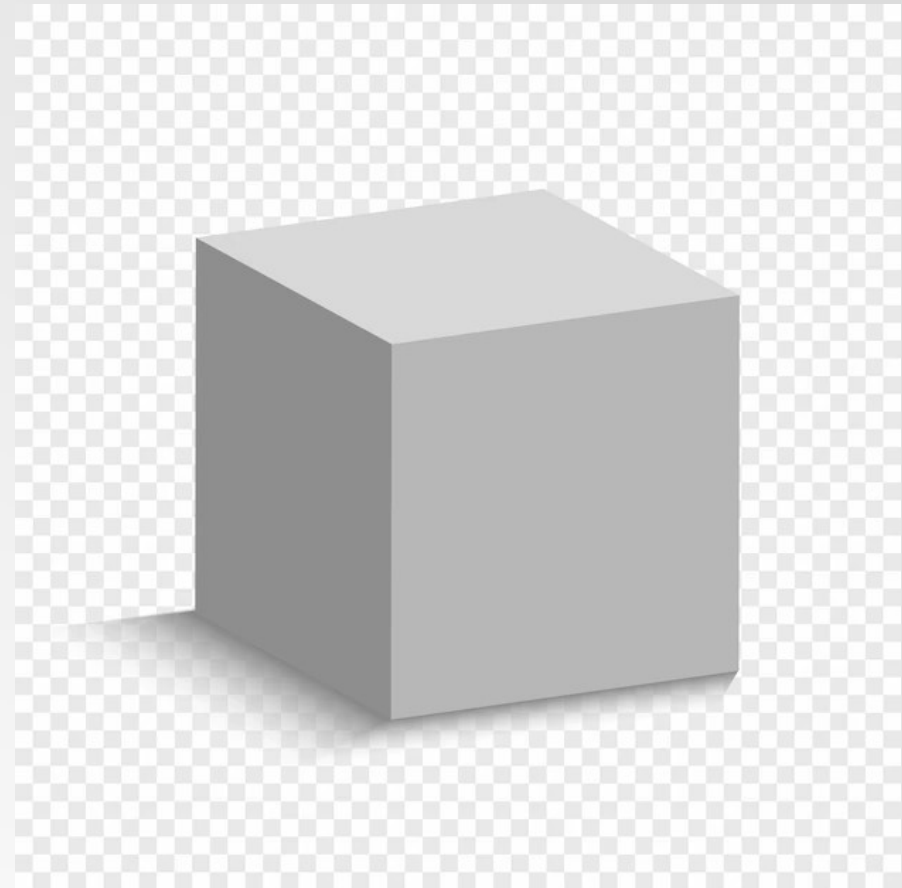
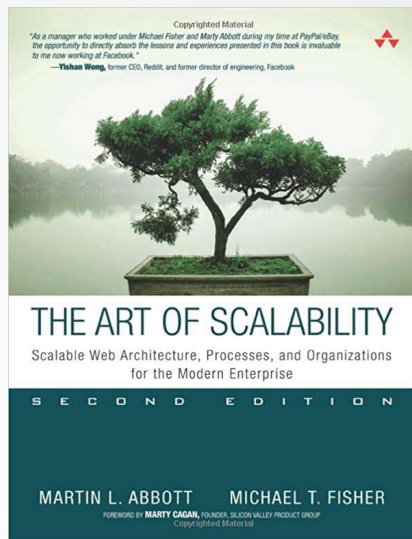
Simple to

**develop
test
deploy
scale**

Microservizi

Storia (I)

Fisher-Abbot (2009)



Microservizi

Storia (II)

Etimologia: workshop of software architects (May 2011 – Venice)

[Microservices \(martinfowler.com\)](http://martinfowler.com/Microservices)

«approach to developing a single application as a suite of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API»

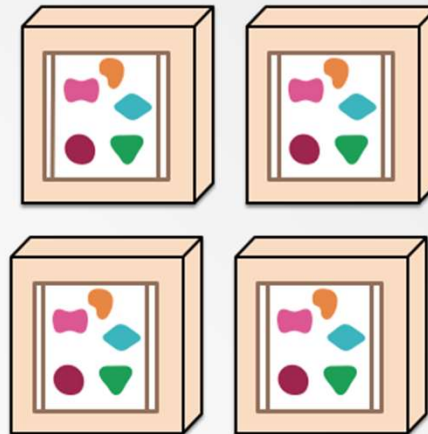
Martin FOWLER



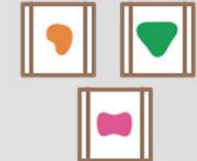
A monolithic application puts all its functionality into a single process...



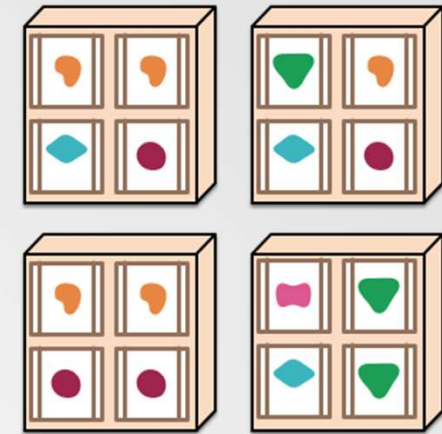
... and scales by replicating the monolith on multiple servers



A microservices architecture puts each element of functionality into a separate service...



... and scales by distributing these services across servers, replicating as needed.

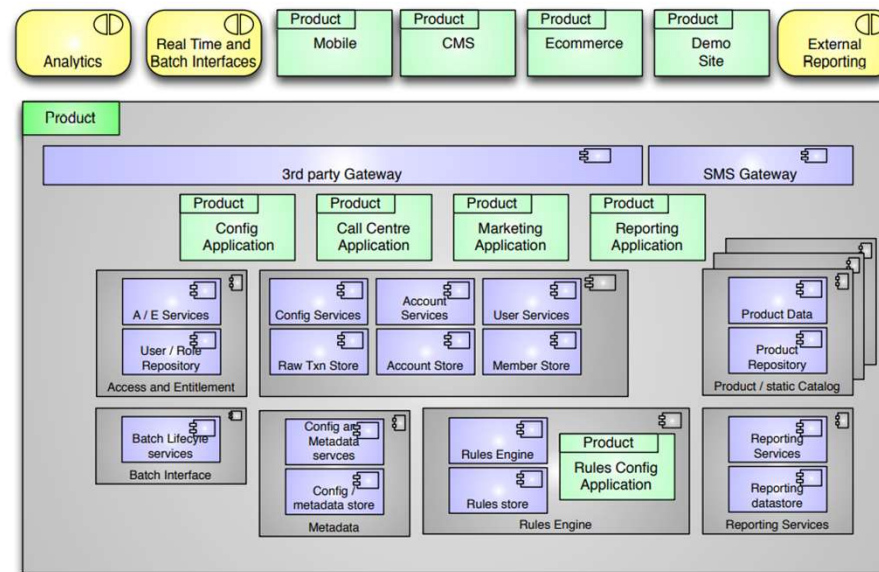


Microservizi

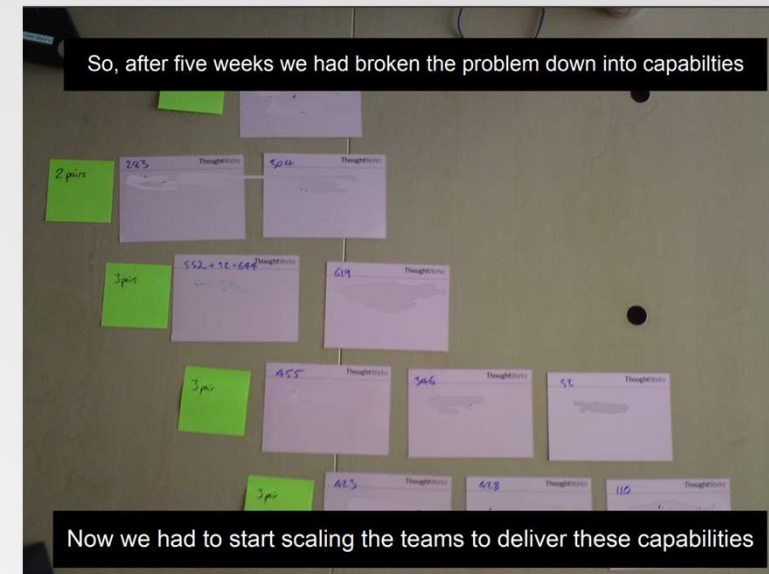
Storia (III)

[Micro-Services - Java, the UNIX way \(2012\) on Vimeo](#)

James LEWIS



Each small box represents a capability,
composed of one or more services



Microservizi

Storia (IV)

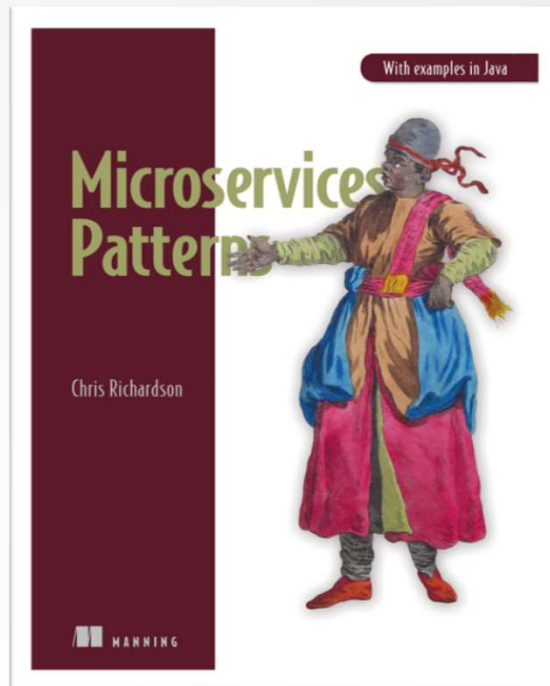
April 2012 [Decomposing Applications for Scalability and Deployability \(slideshare.net\)](#)

January 2014 [Microservice Architecture pattern \(microservices.io\)](#)

January 2018 [There is no such thing as a microservice! \(slideshare.net\)](#)

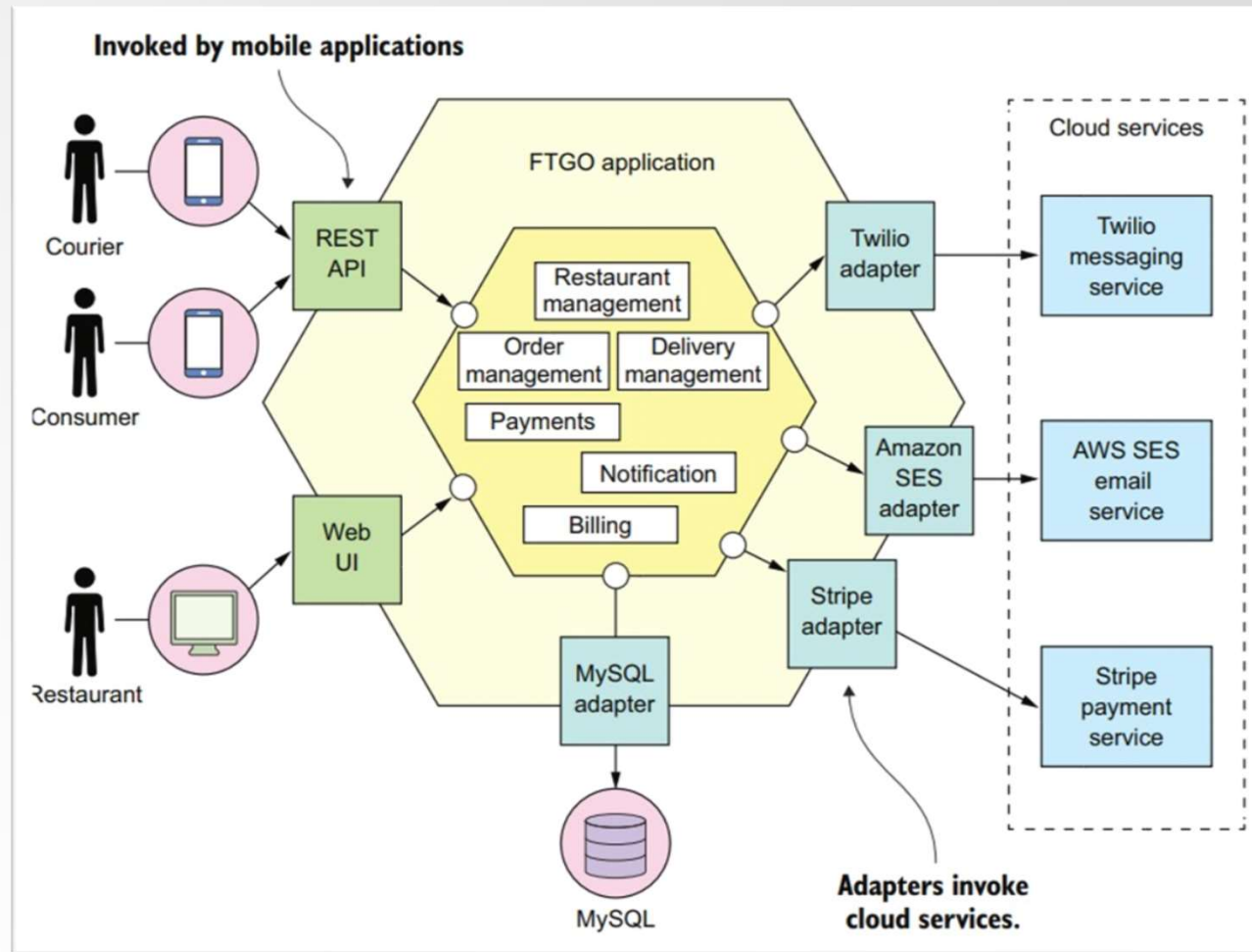
Chris

RICHARDSON



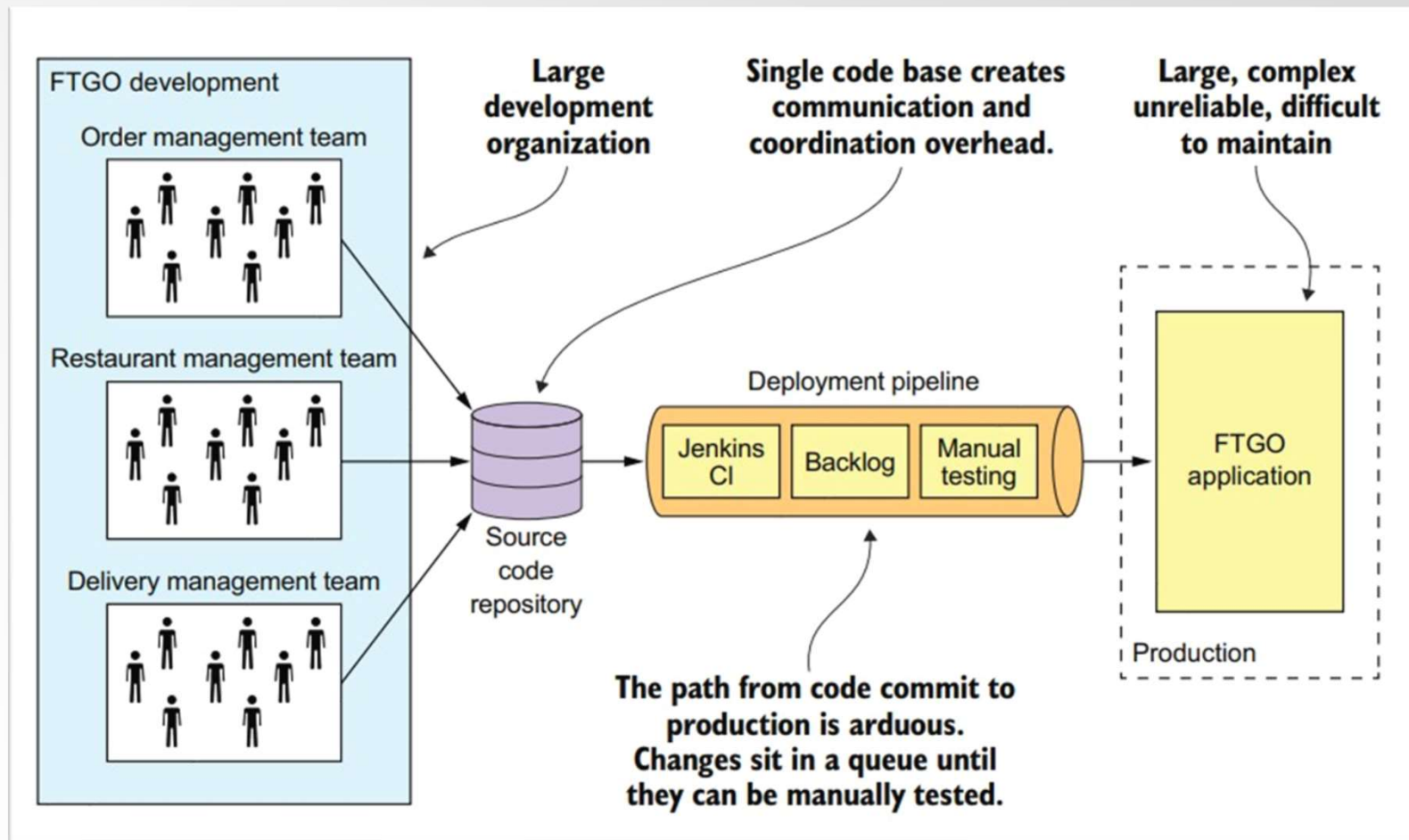
FTGO : Monolithic ... “hell”

Architettura

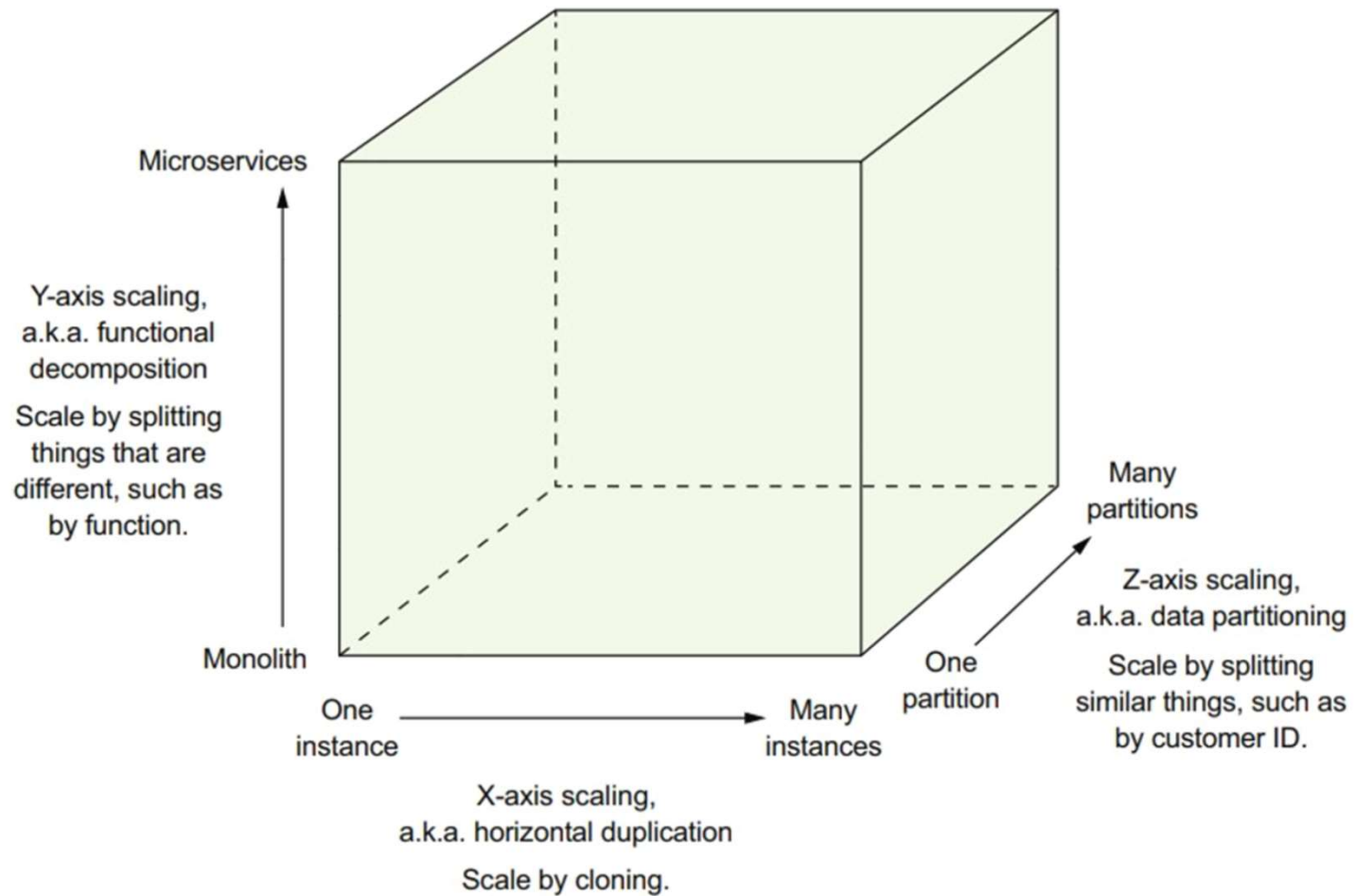
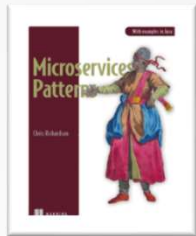


FTGO : Monolithic ... “hell”

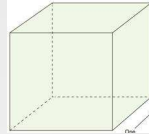
Deployment



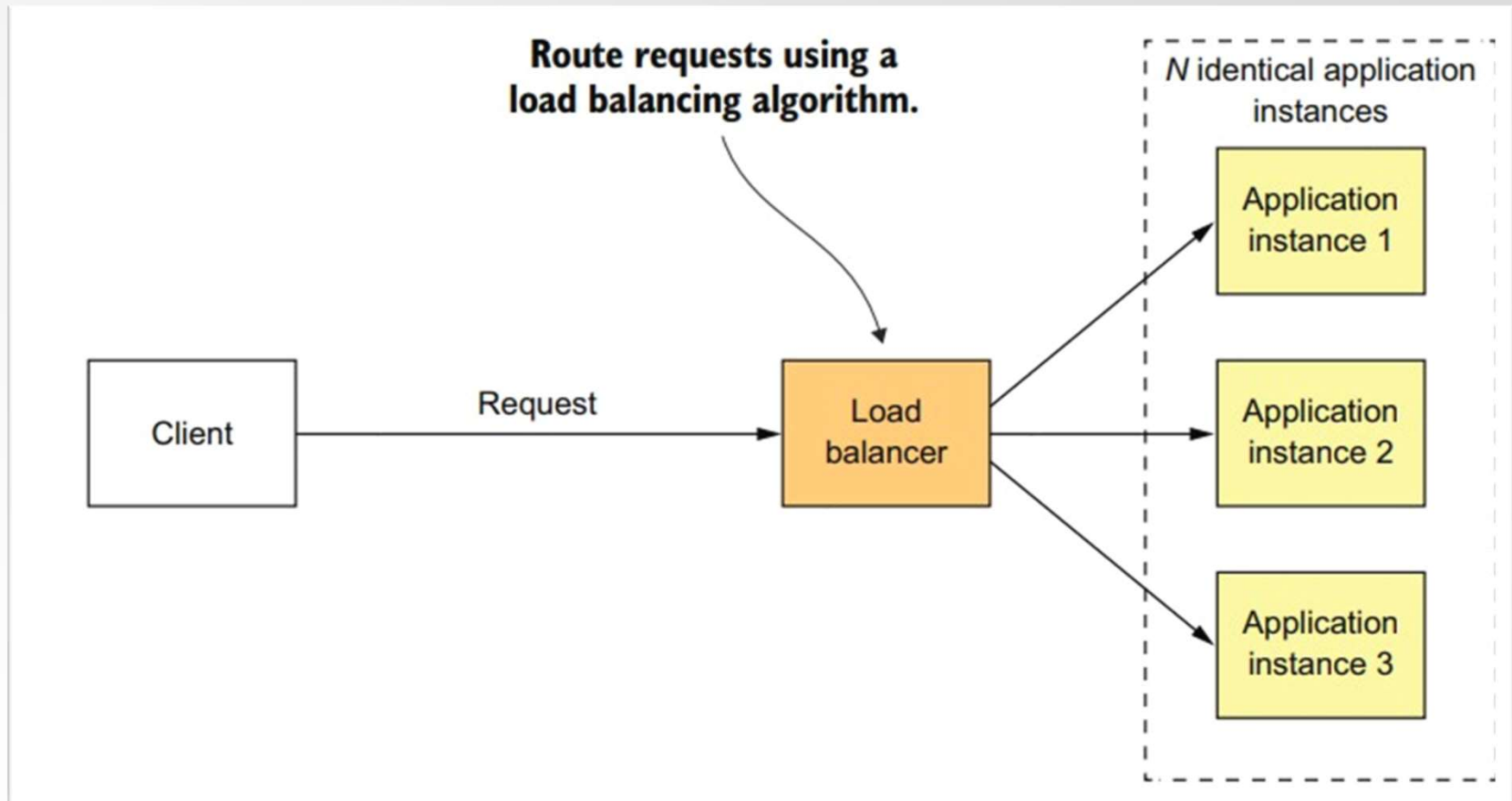
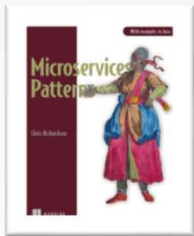
Scale cube



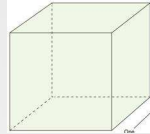
Scale cube



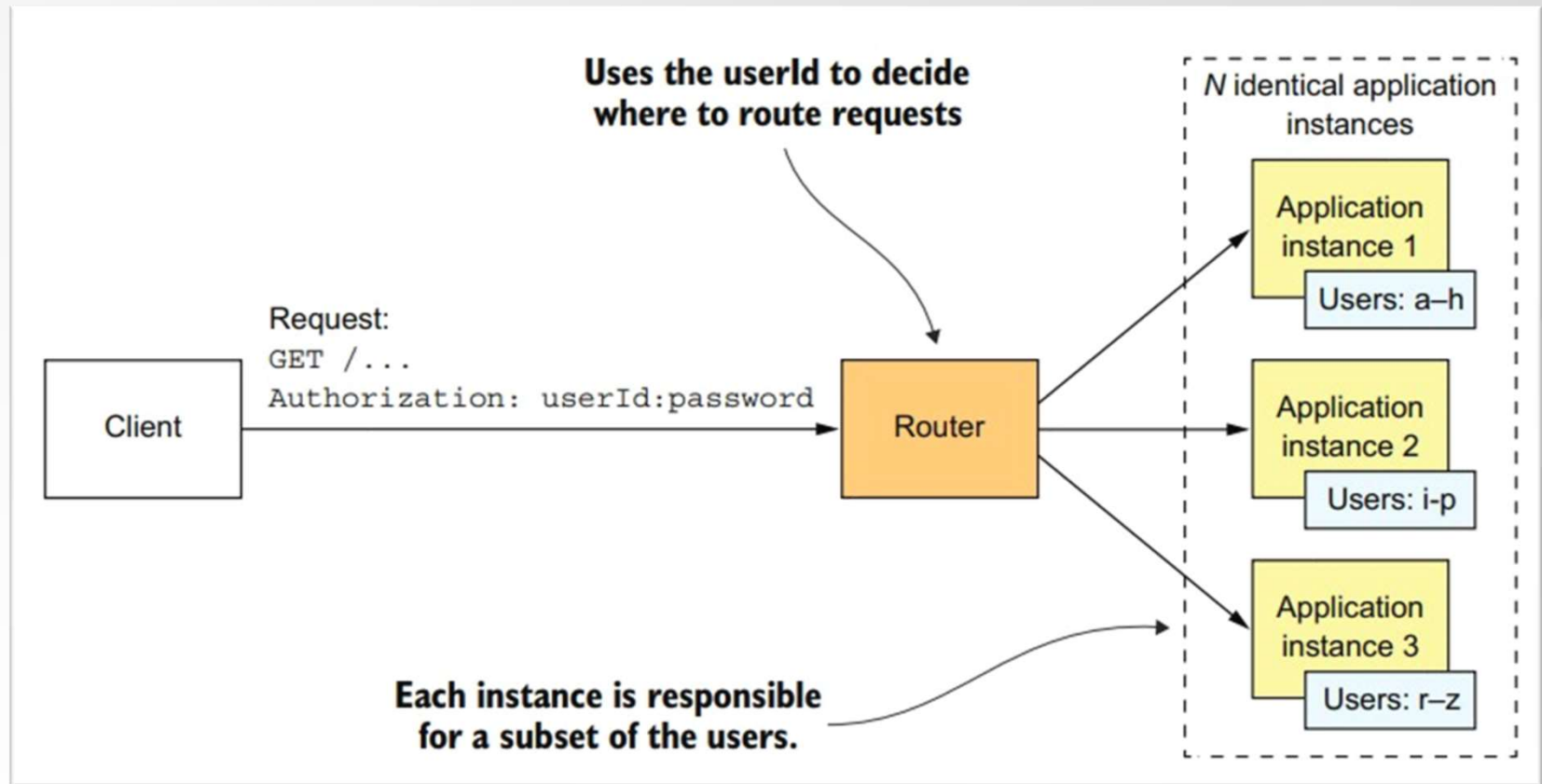
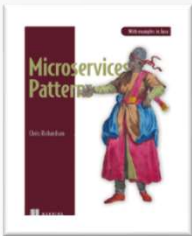
Asse X : istanze



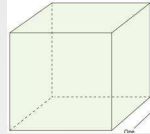
Scale cube



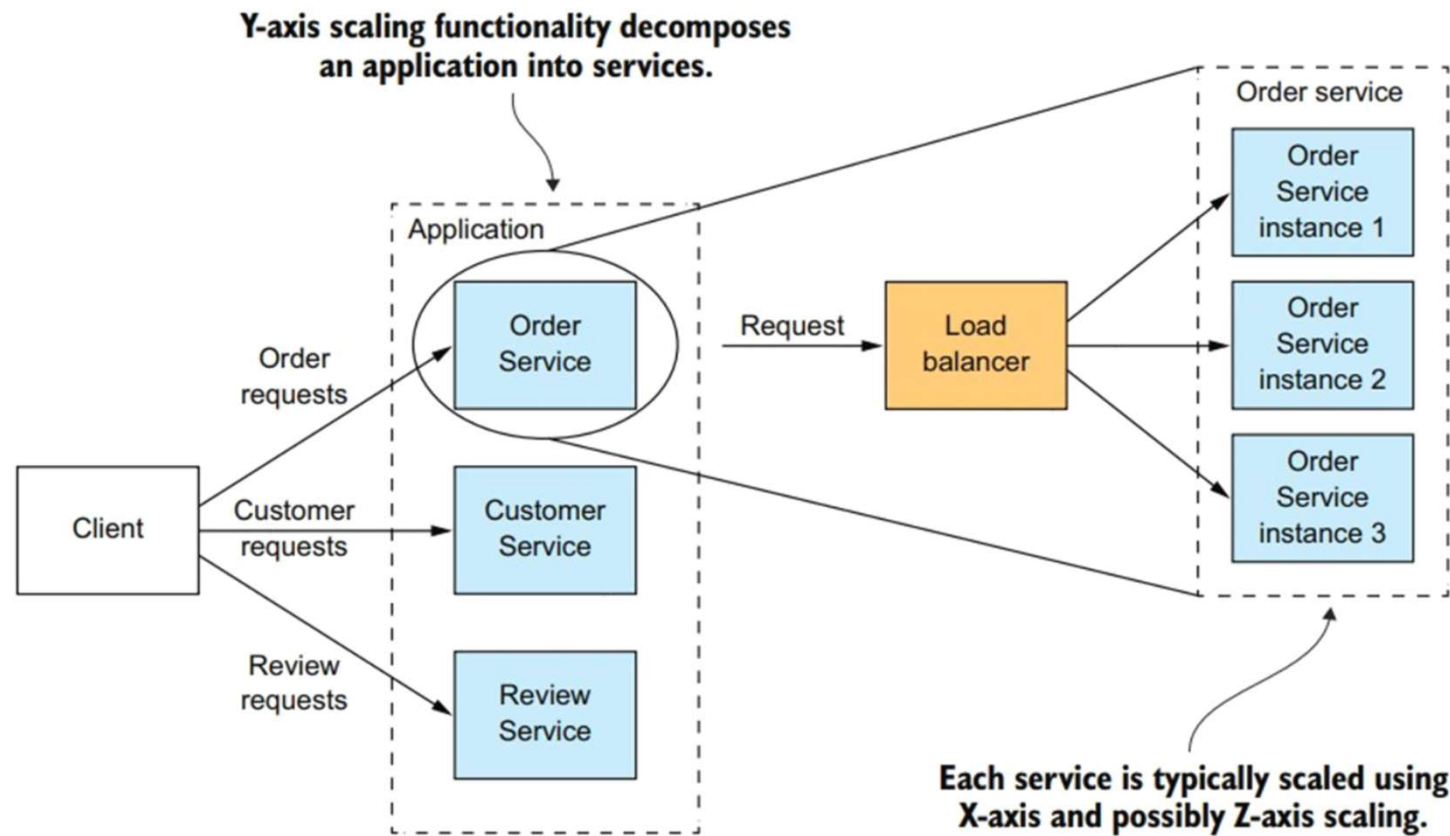
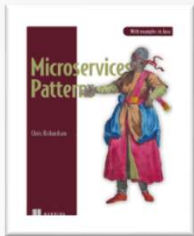
Asse Z : partizioni



Scale cube

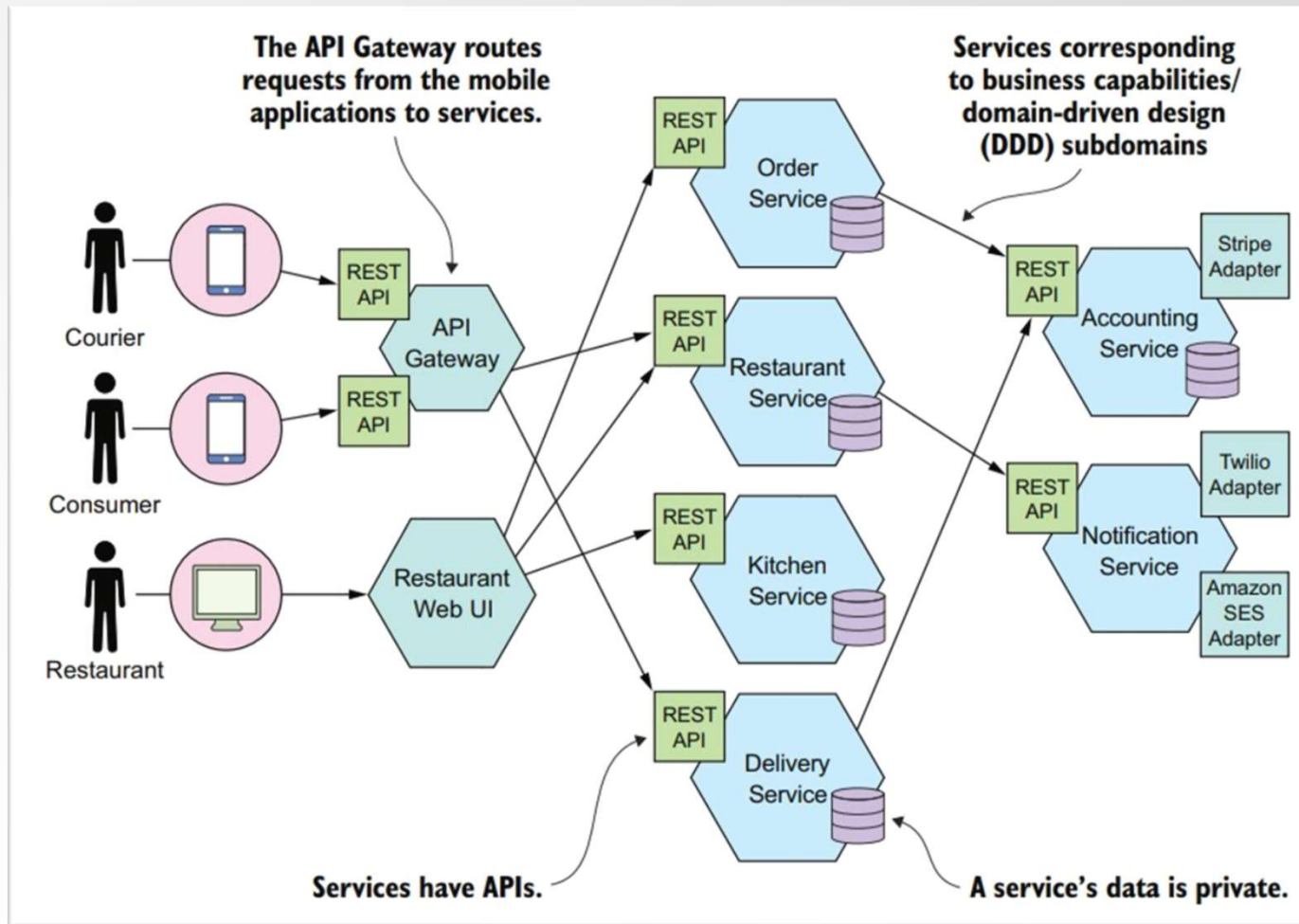


Asse Y : funzioni



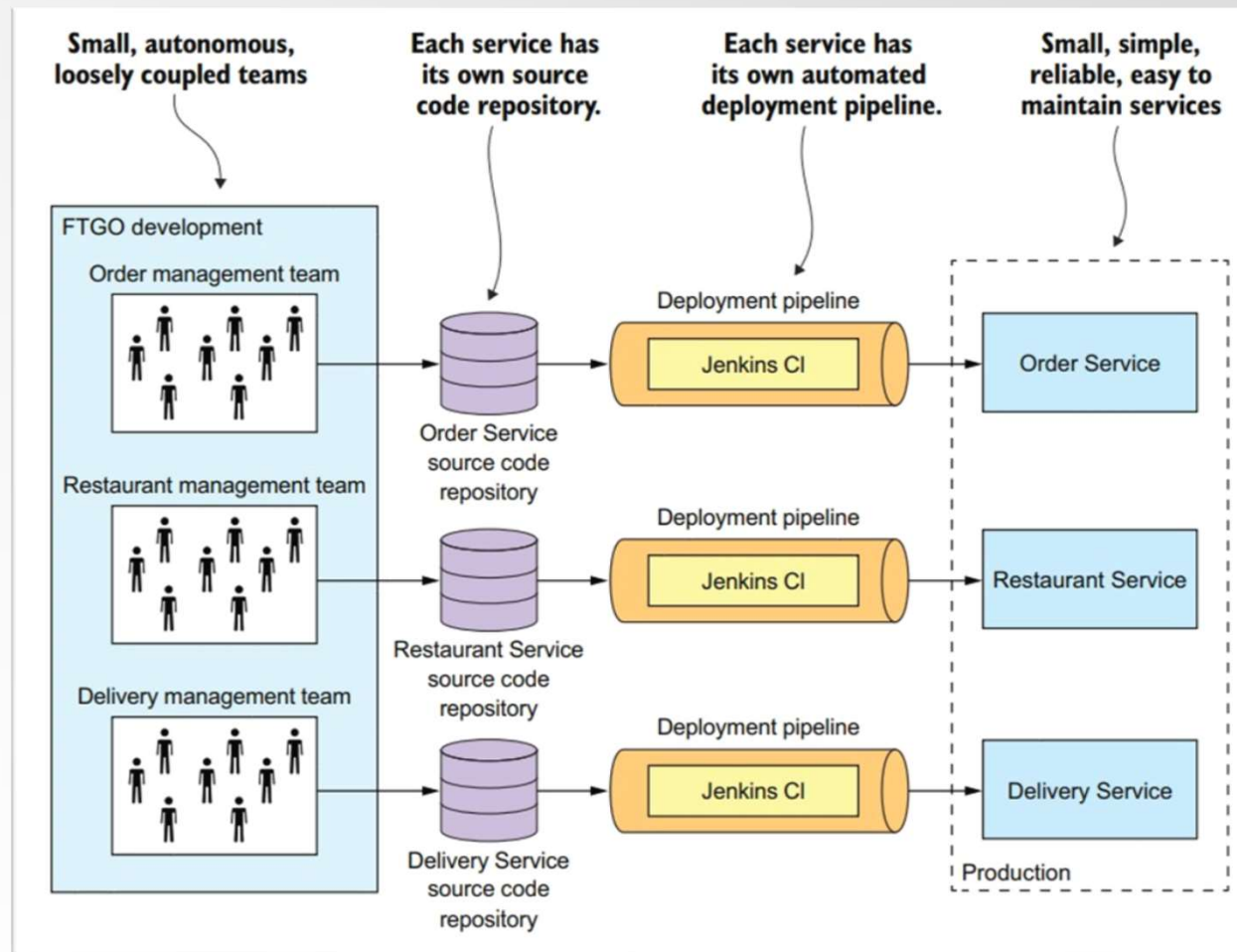
FTGO : Microservizi

Architettura



FTGO : Microservizi

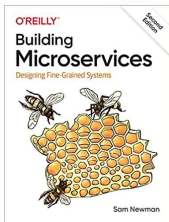
Deployment



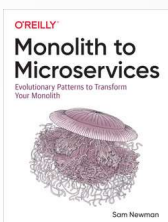
Microservizi

da N-Tier a Microservizi

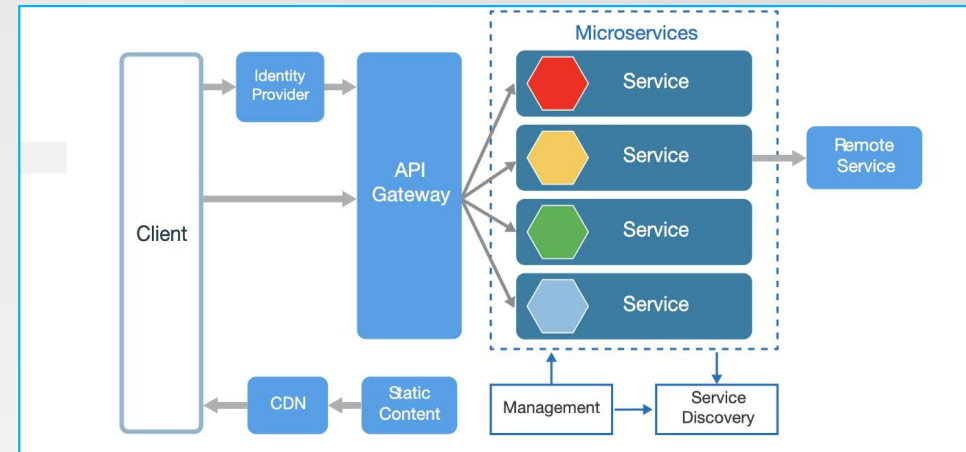
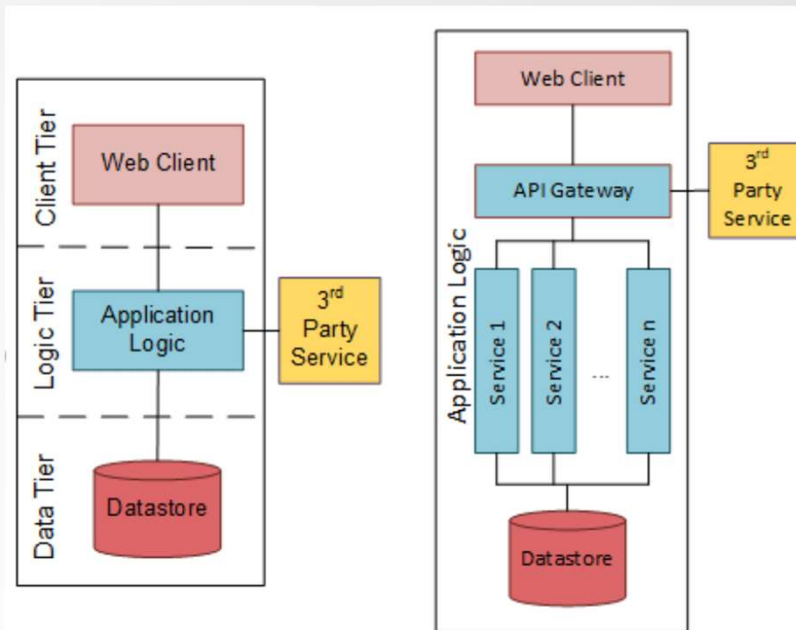
Sam
NEWMAN



2015
(2021)



2019



Microservices architecture design

Migrate Monoliths to microservices

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