



(J)EDUF with C4

Once Upon a Time

Agile transition

BDUF -> (J)EDUF

Monolith -> microservices

Static architectures -> Evolutionary architectures

This is me!



Marcel Schutte

Lead Solution Architect

Email: marcel.schutte@sogeti.com

Tel: 06-52659277

LI: [linkedin.com/in/marceljschutte](https://www.linkedin.com/in/marceljschutte)

Sogeti

- Started as YP in 2006
- Java developer
- Solution architect

Other activities

- Java Architecture Board
- Java Education Team
- Coach

Clients

- DUO
- TenderNed
- ING
- OCLC
- KOOP

Personal

- Married, 2 kids
- Running
- Gardening

A good architecture
enables agility



Agile doesn't mean:

- no documentation
- no design up front



Design is getting more and more collaborative



(J)EDUF -> (Just) Enough Design Up Front

Understand the structure

Create a shared vision

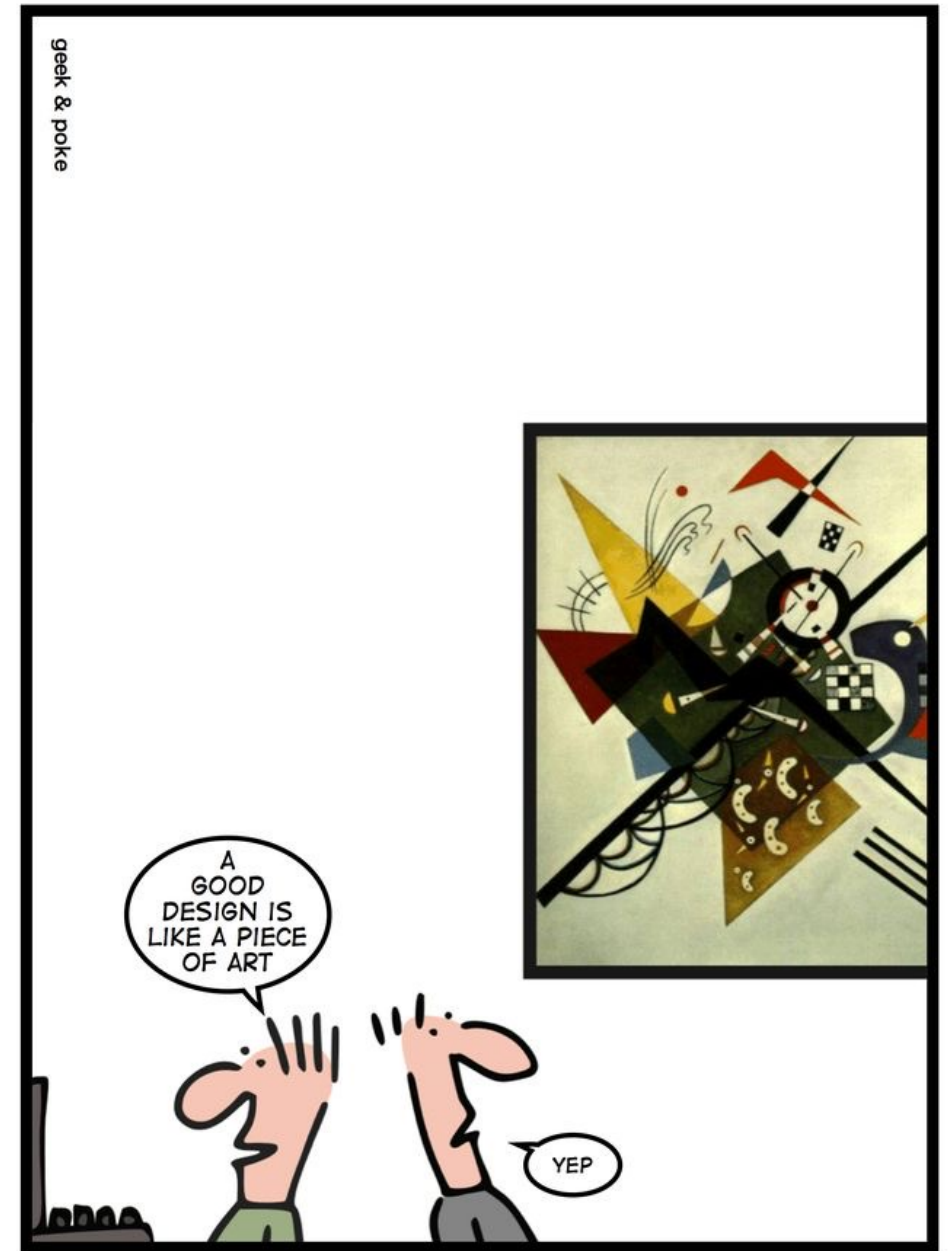
The C4
model

for visualising software architecture

C4 explained

Layers of abstraction

- **Context**
- **Container**
- **Component**
- **Code**

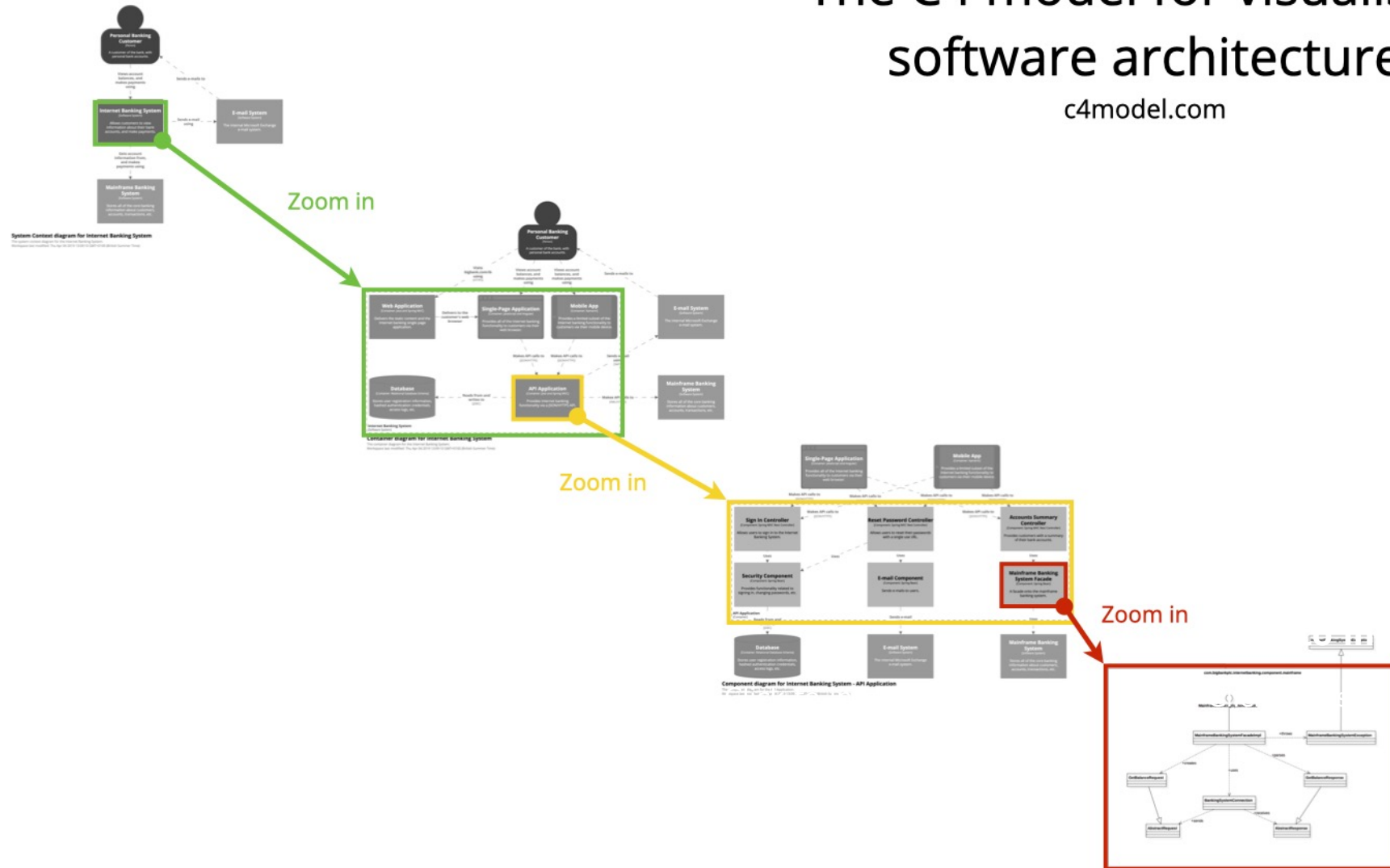


ABSTRACTION

C4 explained

The C4 model for visualising software architecture

c4model.com



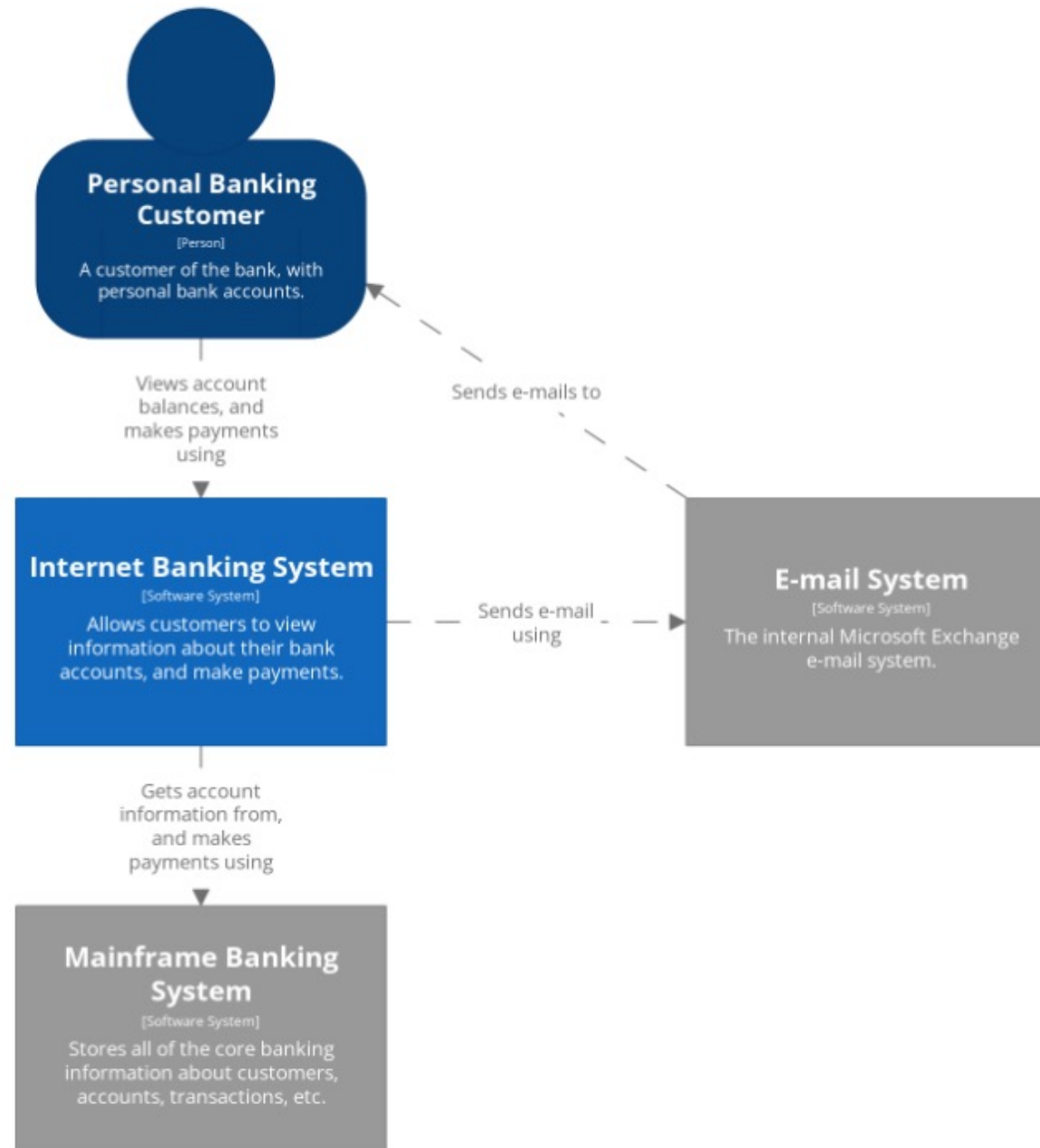
Level 1
Context

Level 2
Containers

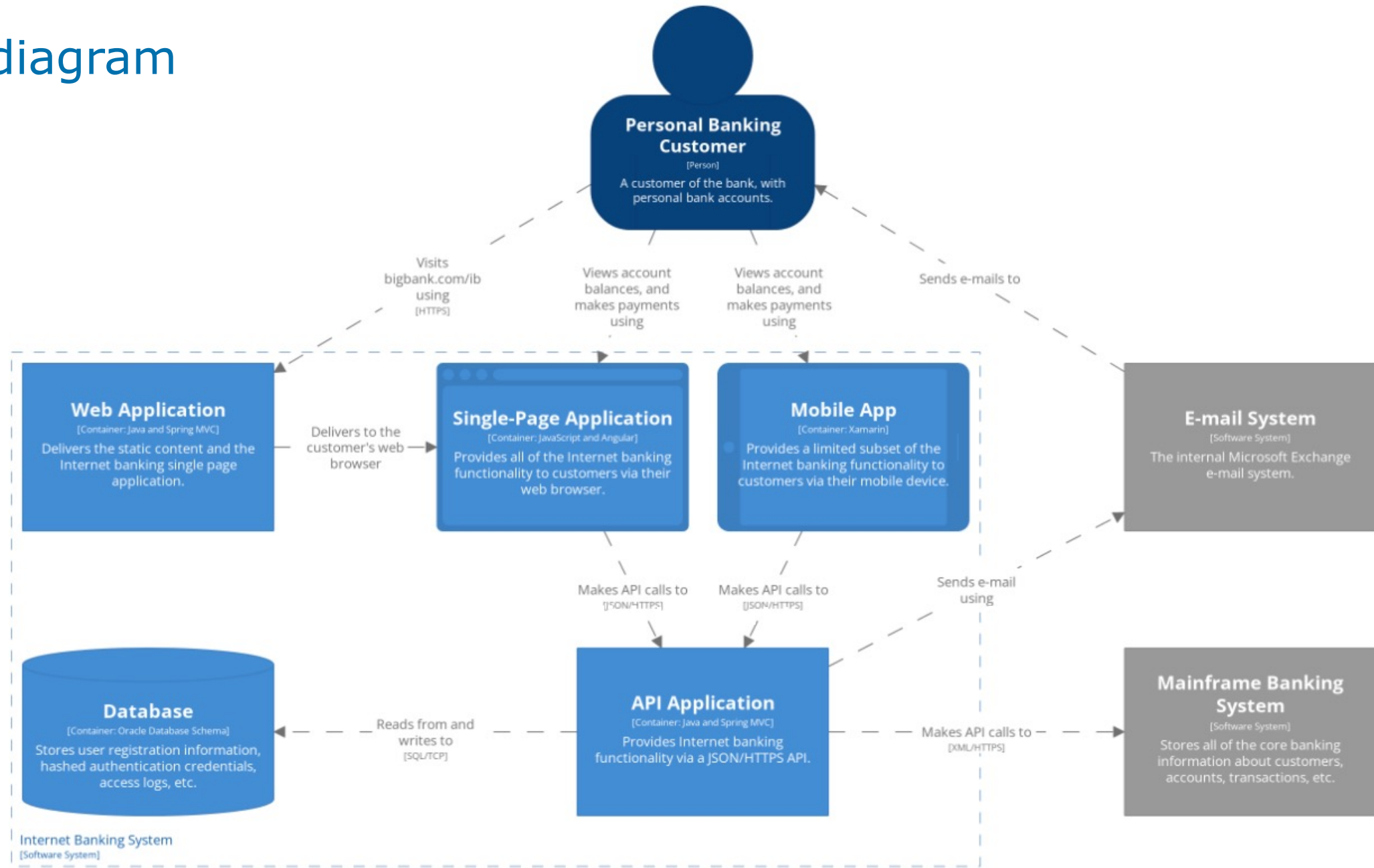
Level 3
Components

Level 4
Code

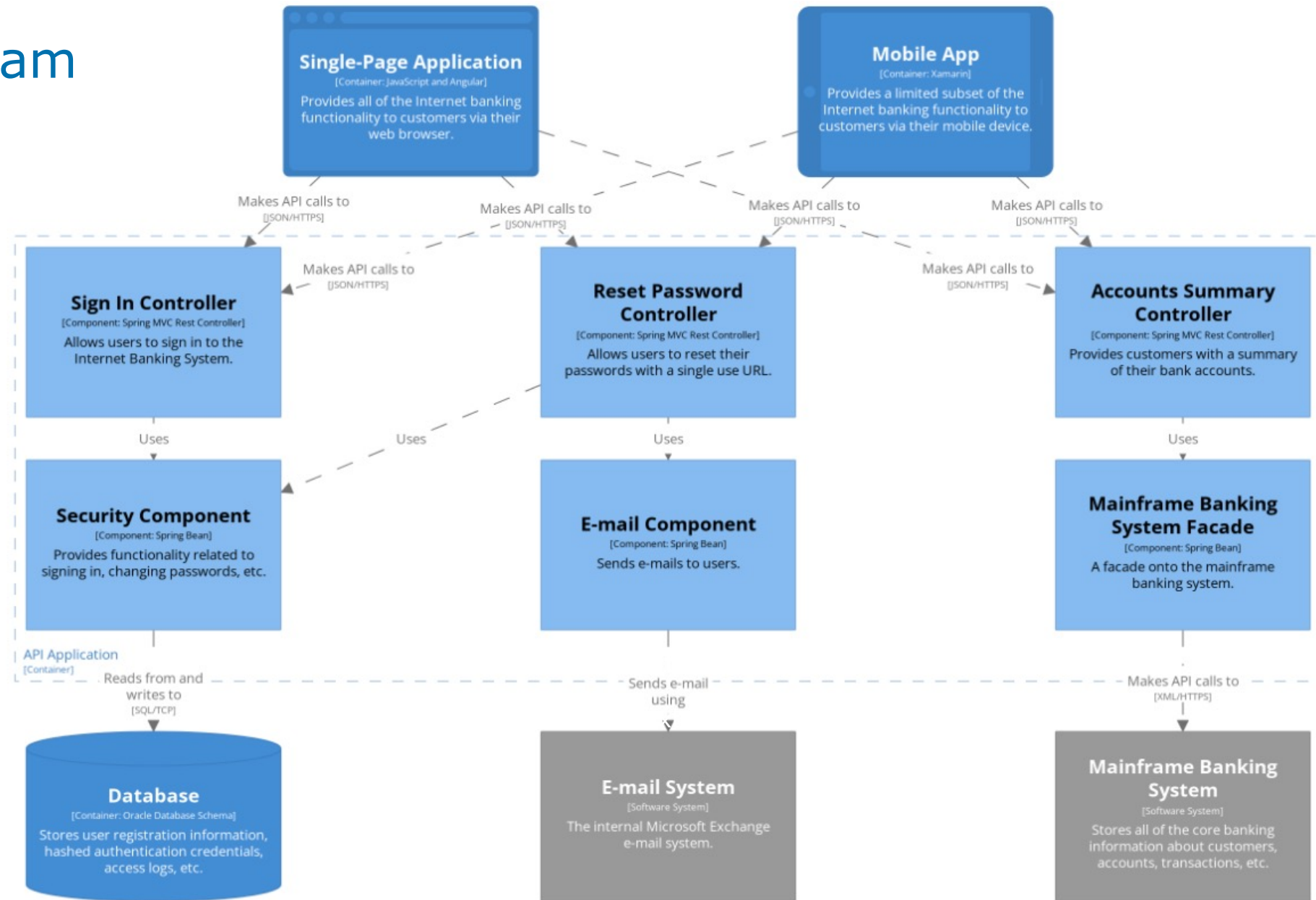
Context diagram



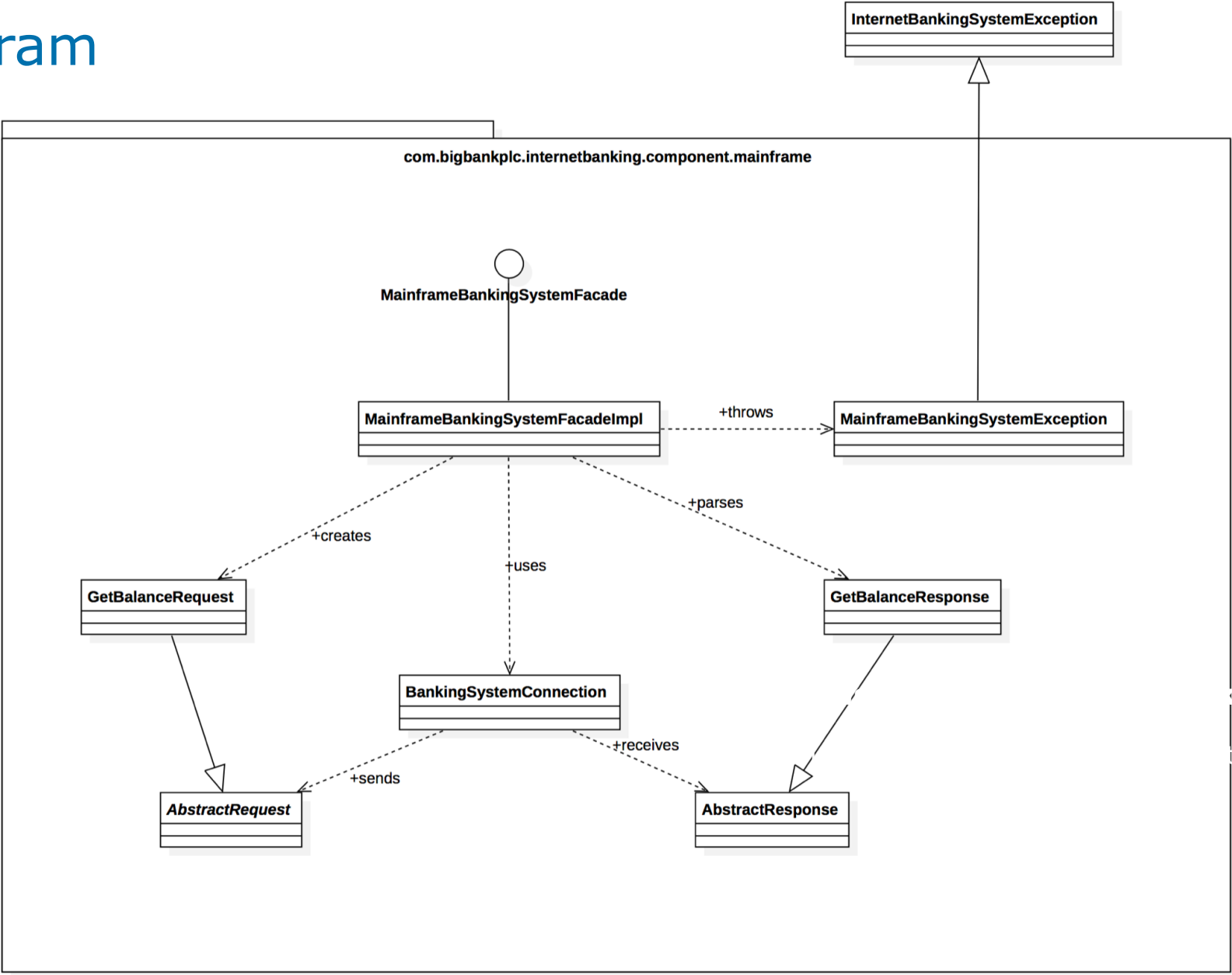
Container diagram



Component diagram



Code diagram



Add this to your diagrams

Title(diagram type and scope)

Legend(explaining shapes, but also acronyms)



Add this to your elements

Type(person, software system,
container or component)

Short description

Technology used



Add this to your elements

Unidirectional relationship

Label(be specific)

Technology/protocol(when applicable)



C4

Pros

- Easy to learn
- Developer friendly
- Ubiquitous pictographic language

Cons

- Not suited for all systems
- Limited focus on non-functionals

Tooling

Archi

Archinsight

Archipeg

Astah

C4-PlantUML

c4builder

C4Sharp

Carbide

CUE4Puml4C4

Diagrams

diagrams.net

Excalidraw

Figma

Gaphor

Gliffy

IcePanel

Lucidchart

Microsoft Visio

Mermaid

Miro

Model

MooD

OmniGraffle

pumla

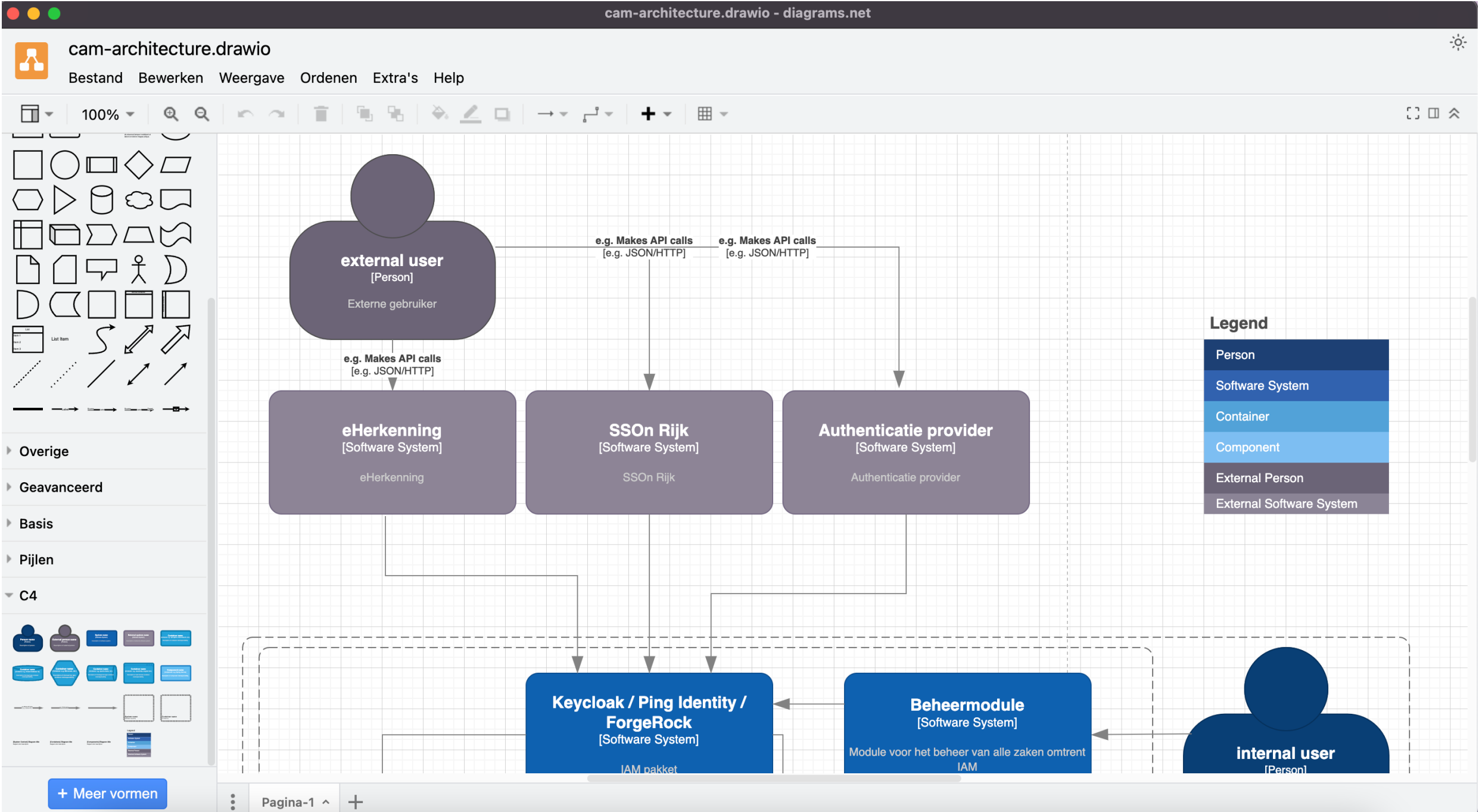
Sparx Enterprise Architect

RDB modeling

Structurizr


Visual Paradigm

yEd



C4 DSL – Architecture Model as Code

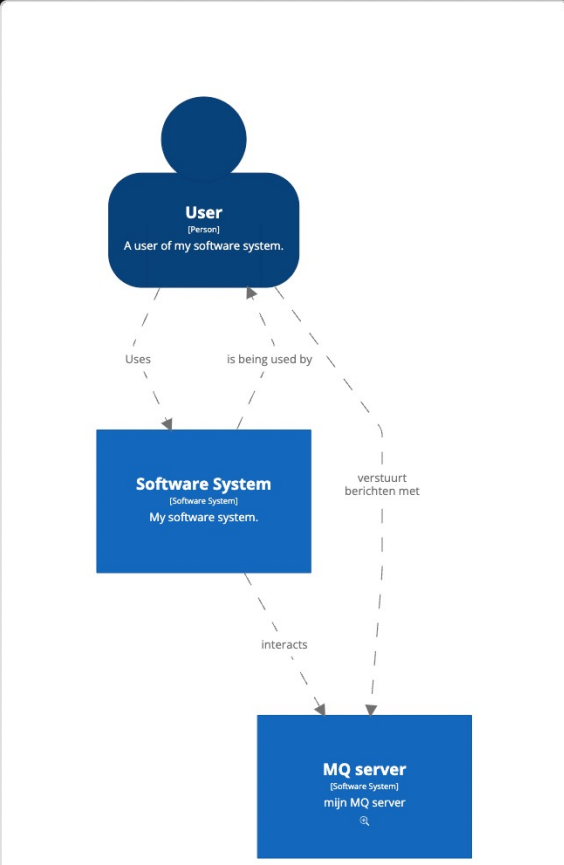
Structurizr DSL language reference ▾

Upload </>  Render

Structurizr Diagram Structurizr Graph Export PlantUML Export C4-PlantUML Export Mermaid Export DOT Export WebSequenceDiagrams Export Ilograph

```
1 workspace {
2
3   model {
4     user = person "User" "A user of my software system."
5     softwareSystem = softwareSystem "Software System" "My software system."
6     mqServer = softwareSystem "MQ server" "mijn MQ server"
7
8     user -> softwareSystem "Uses"
9     softwareSystem -> user "is being used by"
10    user -> mqServer "verstuurt berichten met"
11    softwareSystem -> mqServer "interacts"
12  }
13
14  views {
15    systemContext softwareSystem "SystemContext" {
16      include *
17      autoLayout
18    }
19
20    systemContext mqServer "MqContext" {
21      include *
22      autoLayout
23    }
24  }
25
26  styles {
27    element "Software System" {
28      background #1168bd
29      color #ffffff
30    }
31    element "MQ server" {
32      background #1168bd
33      color #ffffff
34    }
35    element "Person" {
```

[System Context] Software System (#SystemContext) ▾



```
graph TD
    User((User  
[Person]  
A user of my software system.))
    SoftwareSystem[Software System  
[Software System]  
My software system.]
    MQserver[MQ server  
[Software System]  
mijn MQ server]

    User -.->|Uses| SoftwareSystem
    SoftwareSystem -.->|is being used by| User
    SoftwareSystem -.->|interacts| MQserver
    User -.->|verstuurt berichten met| MQserver
```




About Sogeti

Part of the Capgemini Group, Sogeti makes business value through technology for organizations that need to implement innovation at speed and want a local partner with global scale. With a hands-on culture and close proximity to its clients, Sogeti implements solutions that will help organizations work faster, better, and smarter. By combining its agility and speed of implementation through a DevOps approach, Sogeti delivers innovative solutions in quality engineering, cloud and application development, all driven by AI, data and automation.

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of 360,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering, and platforms. The Group reported in 2022 global revenues of €22 billion. Get the Future You Want

Visit us at
www.sogeti.com



This message contains information that may be privileged or confidential and is the property of the Capgemini Group.

Copyright© 2023 Sogeti. All rights reserved.