

# Documentation as Code

Aleksandr Barmin  
May 2022



# Aleksandr Barmin

- Chief Software Engineer I
- AWS Solution Architect Associate
- AWS Developer Associate

[Aleksandr\\_Barmin@epam.com](mailto:Aleksandr_Barmin@epam.com)



# Agenda

- Importance of documentation
- Markdown
- PlantUML
- Marp
- Examples and demos





# Importance of documentation

Documentation is important:

- a single source of truth
- essential for quality and process control
- cuts down duplicative work
- makes hiring and onboarding easier
- a single source of truth makes everybody smarter



# Documentation for software

For text:

- Code (JavaDoc, PyDoc, etc.)
- Confluence
- SharePoint (literally, MS Word)

For diagrams:

- Draw.io
- Lucidchart
- MS Visio



# When documentation is not (only) code

- Different software for different types of content
- Incompatible software
- Tracking of history of changes is complicated
- Consistent styling is complicated



# Documentation as code

<https://www.writethedocs.org/>

Documentation as Code (Docs as Code) refers to a philosophy that you should be writing documentation with the same tools as code:

- Issue Trackers
- Version Control (ex git)
- Plain Text Markup
- Code Reviews
- Automated Tests



# Plain Text Markup

- HTML
- Docbook
- DITA
- reStructuredText
- TeX and LaTeX
- Markdown
- Asciidoc



# Markdown

<https://www.markdownguide.org/>

- Lightweight
- Portable
- Platform independent
- Independent from apps
- It's everywhere already!



## Markdown Example

```
- # Header 1
- ## Header 2
- ### Header 3
- **bold**
- *italic*
```

Header 1	Header 2
Cell 1	Cell 2

- Header 1

---

- Header 2

- Header 3

- bold

- *italic*

**Header 1      Header 2**

---

Cell 1

Cell 2

# Asciidoc

<https://asciidoc.org/>

- Automatic TOC
- Includes
- Audio/View
- Keyboard, button, and menu macros
- Admonitions
- Better tables
- Document attributes
- Bibliography
- Footnotes



# Asciidoc Example

```
----  
This is a code listing  
----
```

```
.This is a text accordion  
[%collapsible]  
====
```

```
This text is hidden inside  
====
```

Header 1

---

Header 2

Header 3

Container with text inside.

This is a code listing

▶ This is a text accordion

*Example of a listing*

\$ ls -al

*Example of Java code*

`public static void main(String args[]) {}`

*Example 1. Example of attributes*

Author of this doc is Aleksandr Barmin

# How to write

- VSCode
- IntelliJ
- GitHub and GitLab
- Jira and Confluence



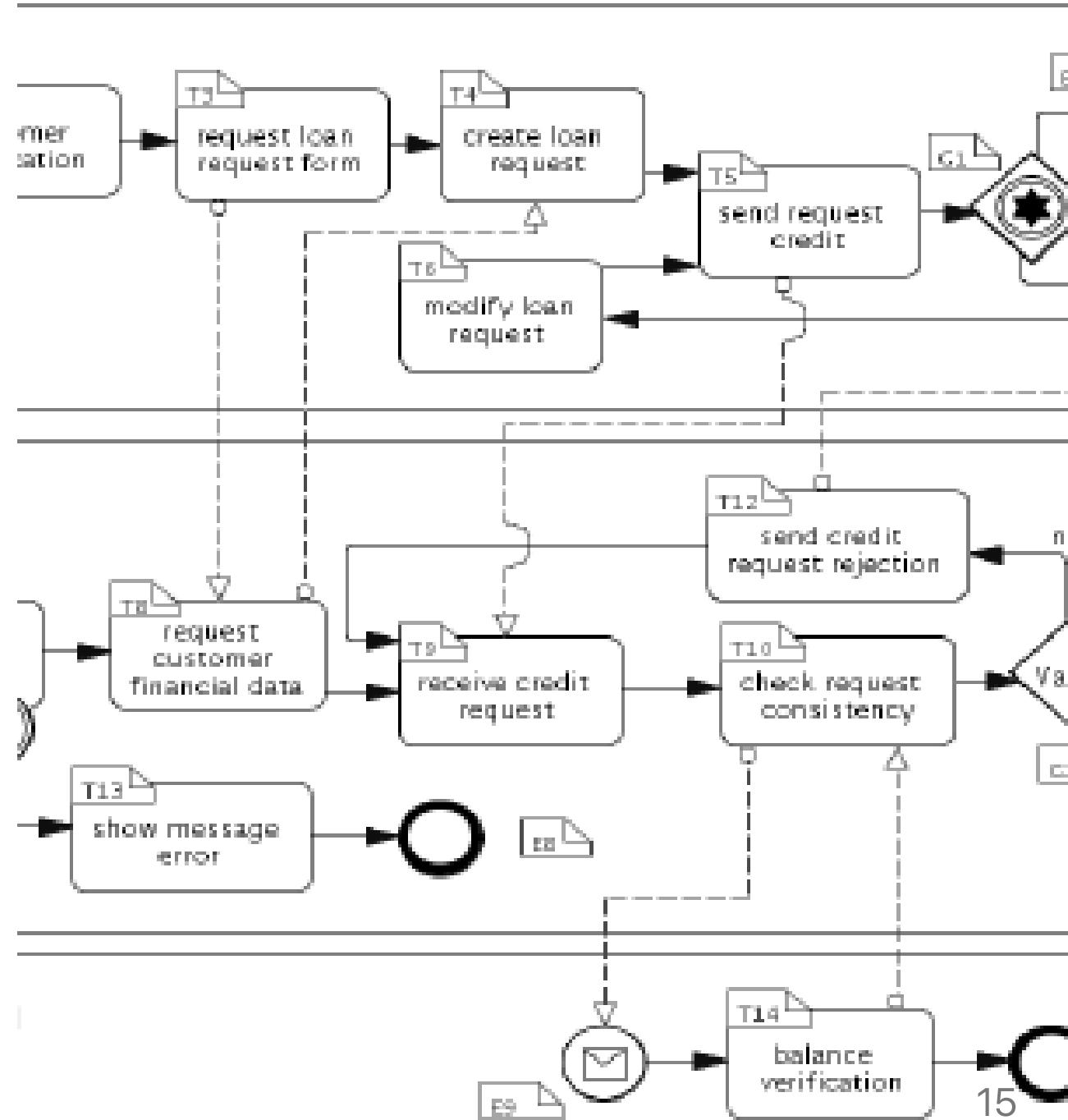
# How to write

- MS Teams
- Notion
- MacDown, iA Writer or Marked 2
- Obsidian, Notable, Bear, Joplin



# Modelling notations

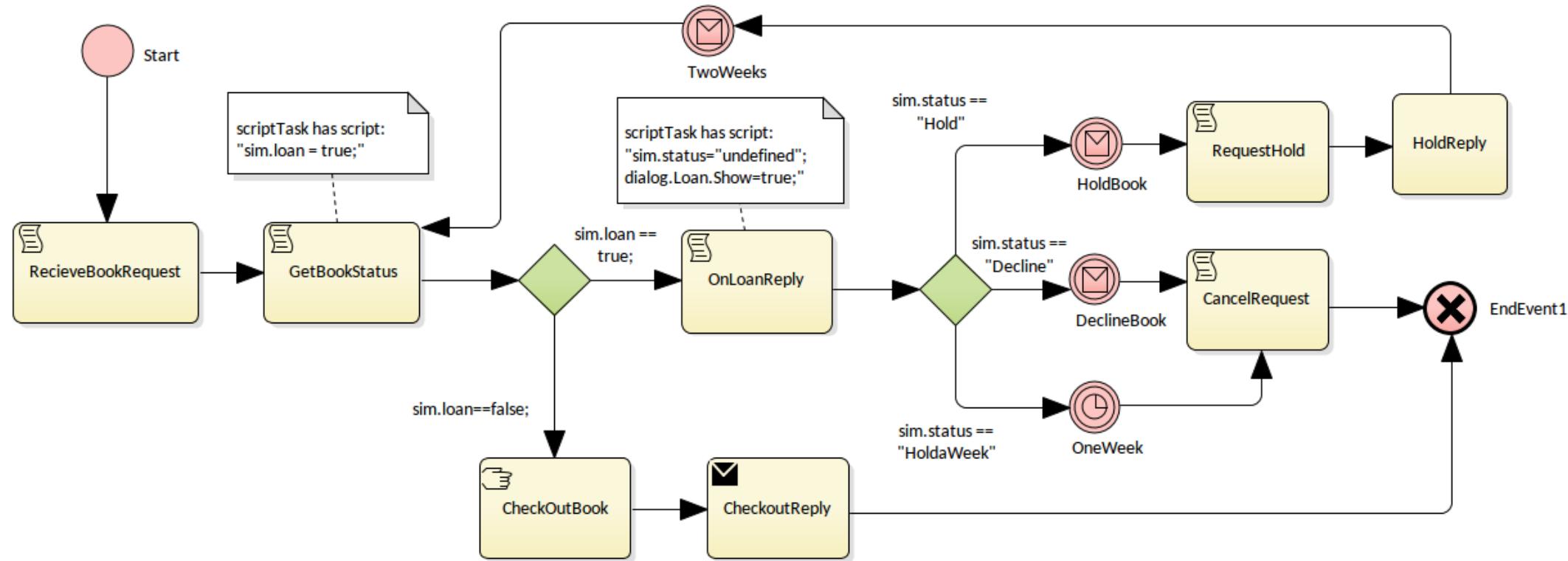
- BPMN
- IDEF
- UML



## Business Process Book Lending Example

# Business Process Diagram

## Book Lending Example



# Drawing UML

- PlantUML
- Mermaid
- yUML
- Nomnoml
- TextUML
- UML Graph
- Asciidoc Doctor Diagram



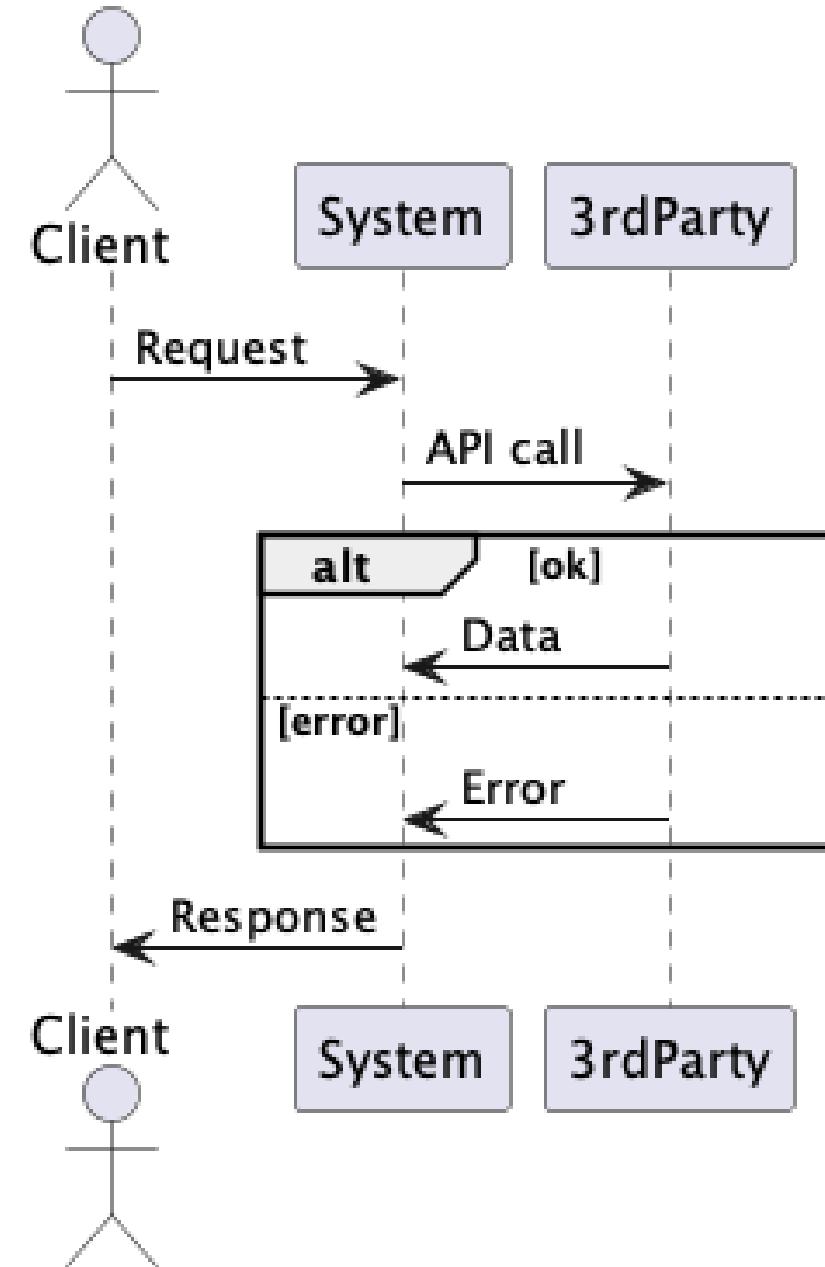
# Sequence diagram

```
@startuml Sequence

actor Client
participant System
participant 3rdParty

Client -> System: Request
System -> 3rdParty: API call
alt ok
    3rdParty -> System: Data
else error
    3rdParty -> System: Error
end
System -> Client: Response

@enduml
```



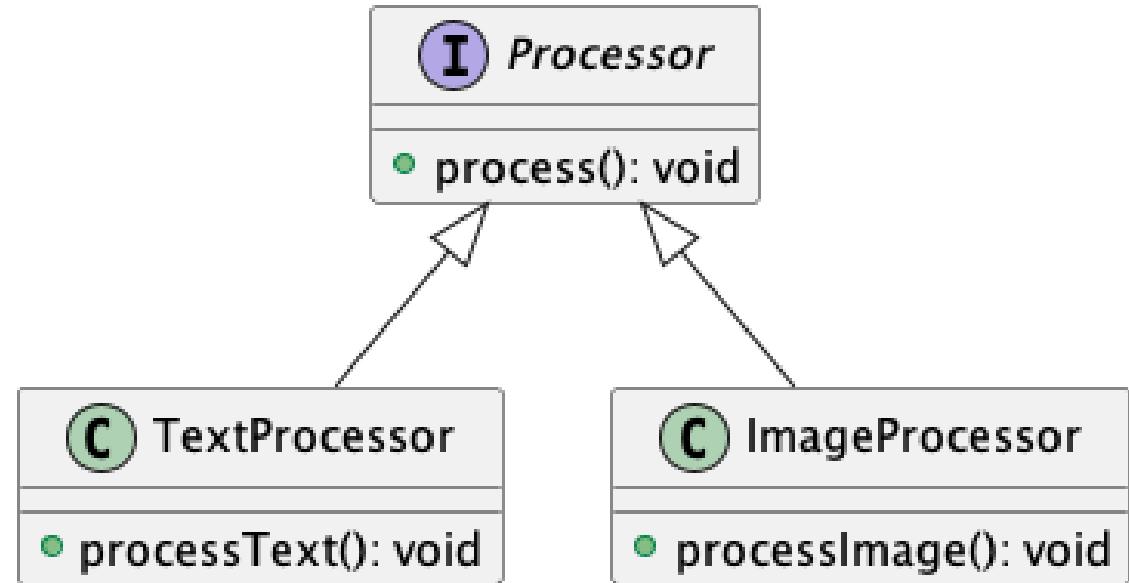
# Class diagram

```
@startuml example-4
```

```
interface Processor {  
    + process(): void  
}  
class TextProcessor {  
    + processText(): void  
}  
class ImageProcessor {  
    + processImage(): void  
}
```

```
TextProcessor -up-> Processor  
ImageProcessor -up-> Processor
```

```
@enduml
```



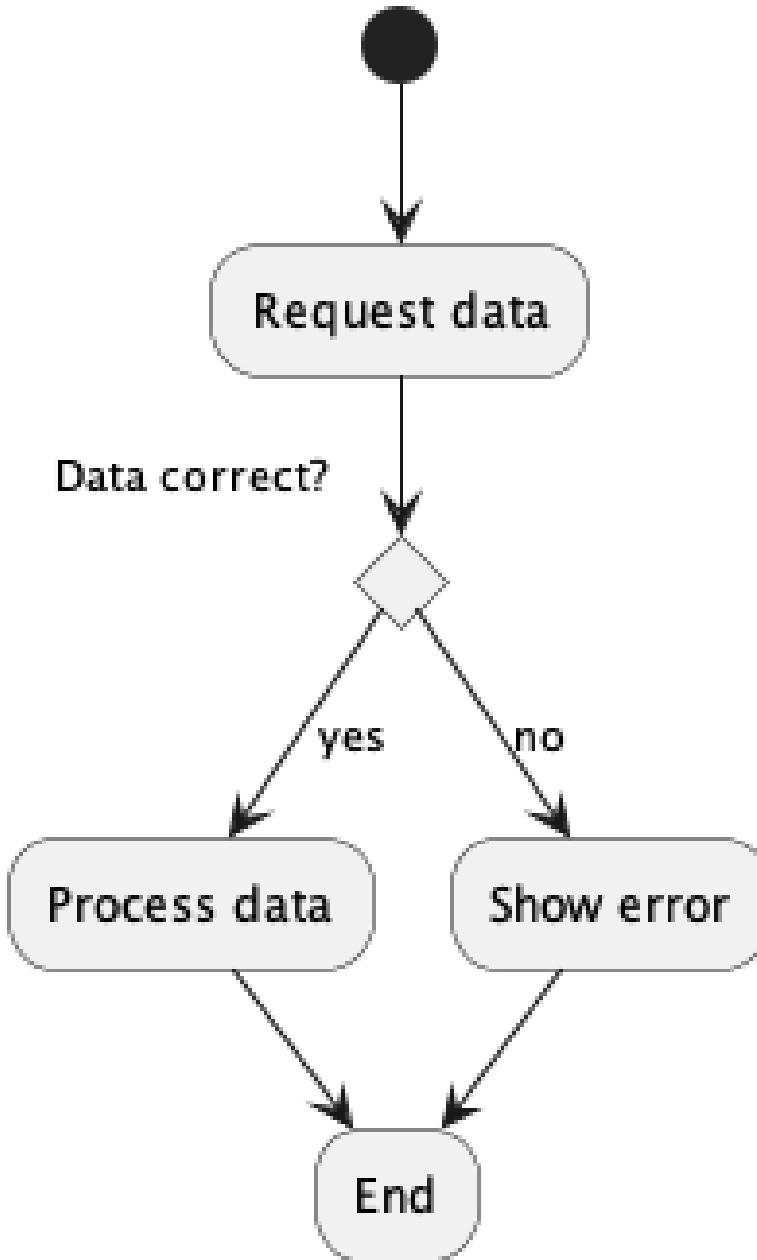
# Activity diagram

```
@startuml example-5

(*) --> Request data

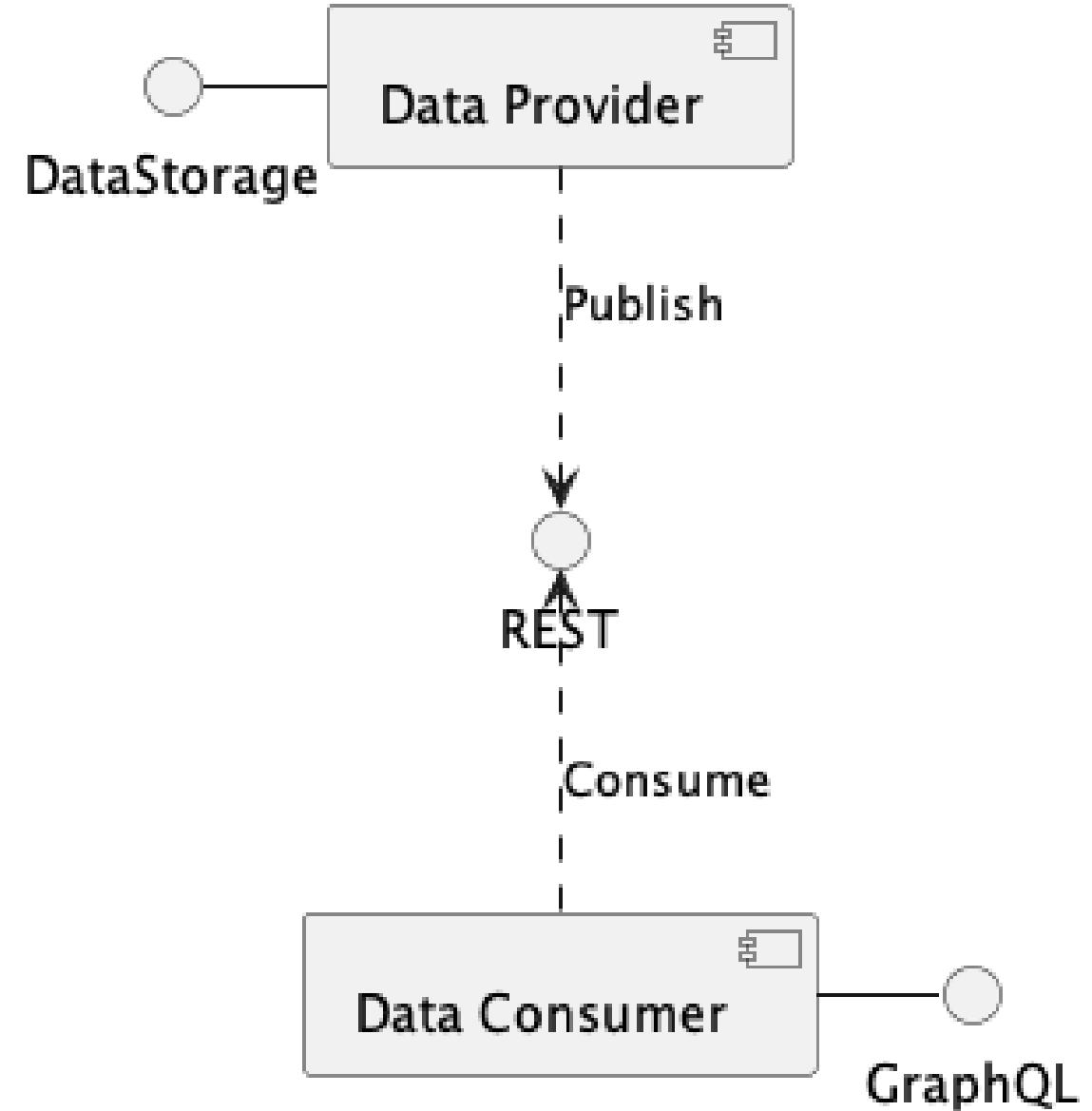
if "Data correct?" then
    --> [yes] Process data
    --> End
else
    --> [no] Show error
    --> End
endif

@enduml
```



# Component diagram

```
@startuml example-6  
  
DataStorage - [Data Provider]  
[Data Provider] .down.> REST: Publish  
  
[Data Consumer] .up.> REST: Consume  
[Data Consumer] - GraphQL  
  
@enduml
```



## Slides as Text

- reveal.js
- Marp
- Remark
- Cleaver



# Summary

- Documentation is important
- Plain text → docx, pdf
- PlantUML → png
- Marp → pptx, pdf

<https://github.com/aabarmin.epam-documentation-as-code-examples-2022>

