

AUDIT CHAIN

AMOS PROJECT SS2022

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Outline

- 1 Introduction
- 2 Introduction
- 3 Blockchain
- 4 RabbitMQ
- 5 Docker
- 6 Producer Dummy
- 7 Consumer Dummy
- 8 GUI
- 9 Testing
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Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain
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- 6 Producer Dummy
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- For this purpose there is a **central event queue**, which receives events from a **producer** and provides them a **consumer**, which is built on a underlying **blockchain** data structure.
- Finally, the event will be copied in a second consumer and will be deleted from the event queue.

Table of Contents

- 1 Introduction
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Introduction

Here is a diagram of our work

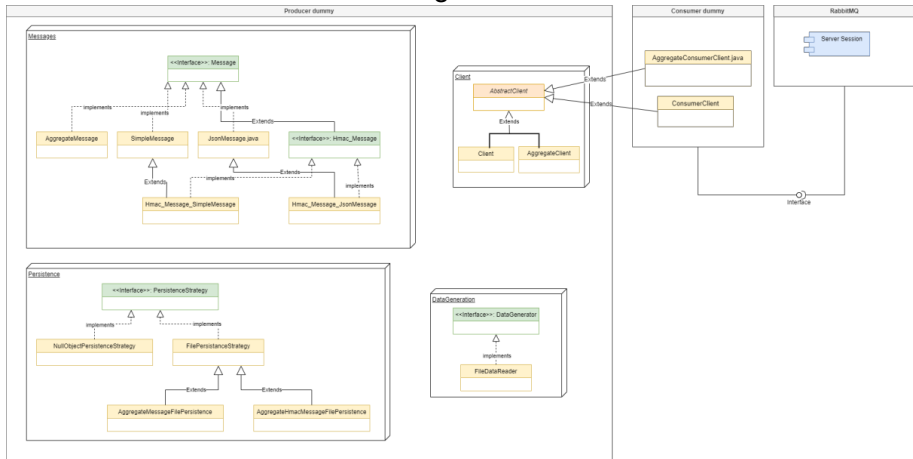


Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain**
- 4 RabbitMQ
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- 6 Producer Dummy
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- A blockchain is a digital ledger that stores data in groupings called blocks.
- When a block is full, it is closed and linked to the preceding block, producing a data chain known as the blockchain.
- It is not only a simple back linked list, in fact each block contains a hash of the previous block.
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Benefits and Application of Blockchain

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 - Real Estate etc.

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 - Added the feature that checks automatically itself to see if some messages stored in a range have been tempered.
- Finally, we tested our program by creating the JUnittest with a direct channel between producer dummy and consumer without the queue.

Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain
- 4 RabbitMQ**
- 5 Docker
- 6 Producer Dummy
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- RabbitMQ is a 3rd party program that we are using as a component for queuing events.

Table of Contents

- 1 Introduction
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- 5 Docker**
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- 8 GUI
- 9 Testing
- 10 Conclusion

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Table of Contents

- 1 Introduction
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- 3 Blockchain
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- 5 Docker
- 6 Producer Dummy**
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- In our case, producer dummy creates the events that are then stored in the central queue which will be used later from consumer dummy.

Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain
- 4 RabbitMQ
- 5 Docker
- 6 Producer Dummy
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- Consumers can approach the queue, in order to get the events and work with them accordingly. Events are recorded serially and the central event queue is transmitted via the network queue.
- In our case, after the implementation of producer dummy, our consumer dummy would use the events that are created and stored in the central queue for further processing, like storing.

Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain
- 4 RabbitMQ
- 5 Docker
- 6 Producer Dummy
- 7 Consumer Dummy
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- Users can perform any action without having to know any programming language in this friendly visual environment.
- In our project, we implemented a nice GUI and at the same time we improved the functionality of Blockchain with the following features:
 - from sequence number return the message if tempered,
 - from two sequence number return the tempered messages in that interval,
 - show how many events does the Blockchain hold,
 - show how many files does the Blockchain hold,
 - show much space the Blockchain occupies.

Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain
- 4 RabbitMQ
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- 7 Consumer Dummy
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- 9 Testing**
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- We use this framework to write and execute automated tests.
- However, in Java, there are test cases that must be re-executed every time a new code is added.
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- We have JUnit Tests for the following cases:
 - JUnit Tests Producer Dummy
 - JUnit Tests Consumer Dummy
 - JUnit Tests Blockchain

Table of Contents

- 1 Introduction
- 2 Introduction
- 3 Blockchain
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Conclusion

We had a great time together and we really enjoyed our time!



Ronja: PO



Gajana: SD



Chiara: SD



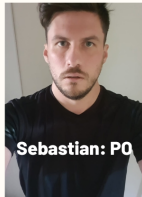
Francesco: SD



Charinee: Our fantastic
Scrum Master



Our Dream Team



Sebastian: PO



Ibrahim: SD



Anastasia: SD



David: SD