



experts club

Processamento em lote utilizando Spring Batch com Java

16/02/2022

Agenda

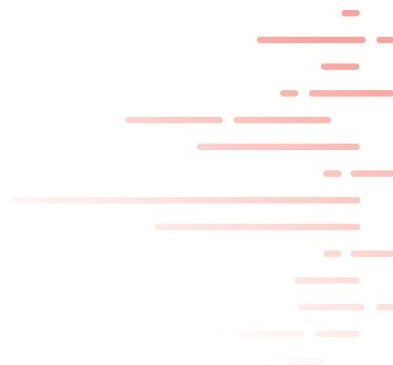
- Quem sou eu e a minha relação com o código;
- Sobre a aula e o que será entregue no final;
- Requisitos, ambiente e recursos;
- Etapa de descoberta do problema
- Refinamento técnico e possíveis soluções
- Entrega da solução final



Um pouco sobre mim e a minha jornada como dev



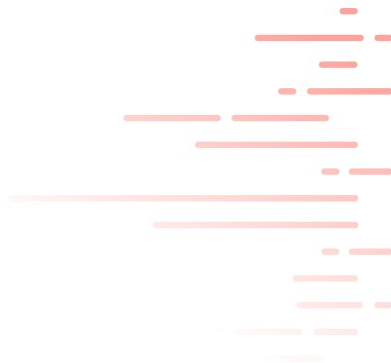
- **Denis Soares Moreira**
- **+10 anos de experiência em desenvolvimento**
- **Especialista Backend na Invillia**
- **Redes sociais para contato:**
 - Plataforma da [Rocketseat](#)
 - LinkedIn - [denissmoreira](#)
 - Youtube - [Denis Moreira](#)



Sobre a aula e o que será entregue no final

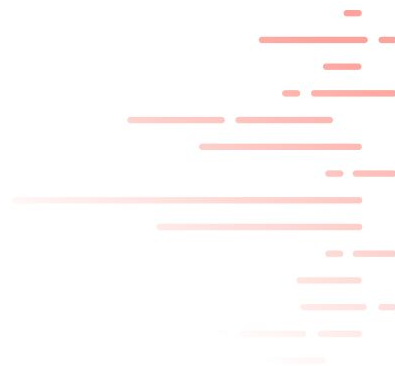


- **Processamento e escalabilidade usando Spring Batch com Java**
- **O que teremos de entrega no final do conteúdo:**
 - <https://github.com/rocketseat-experts-club/spring-batch-performance>
(Um projeto demonstrando o poder de processamento do spring batch)

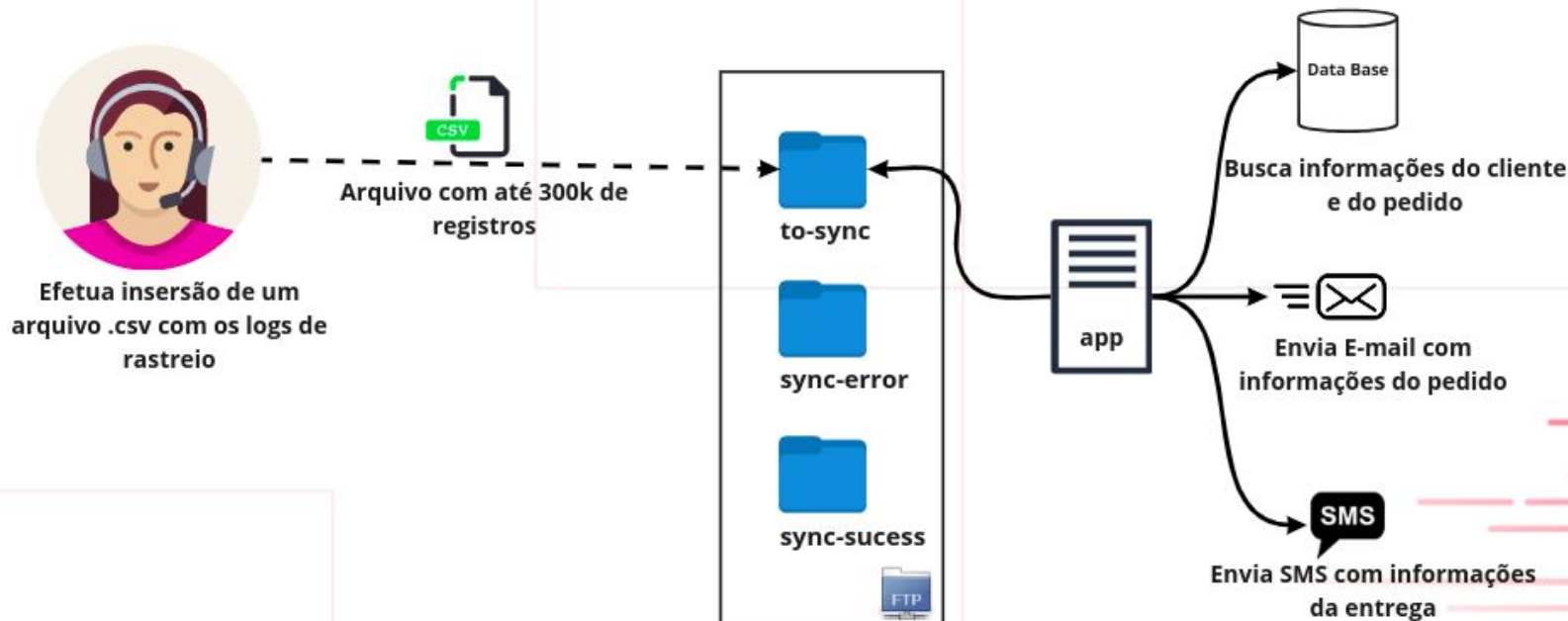


Requisitos, ambiente e recursos

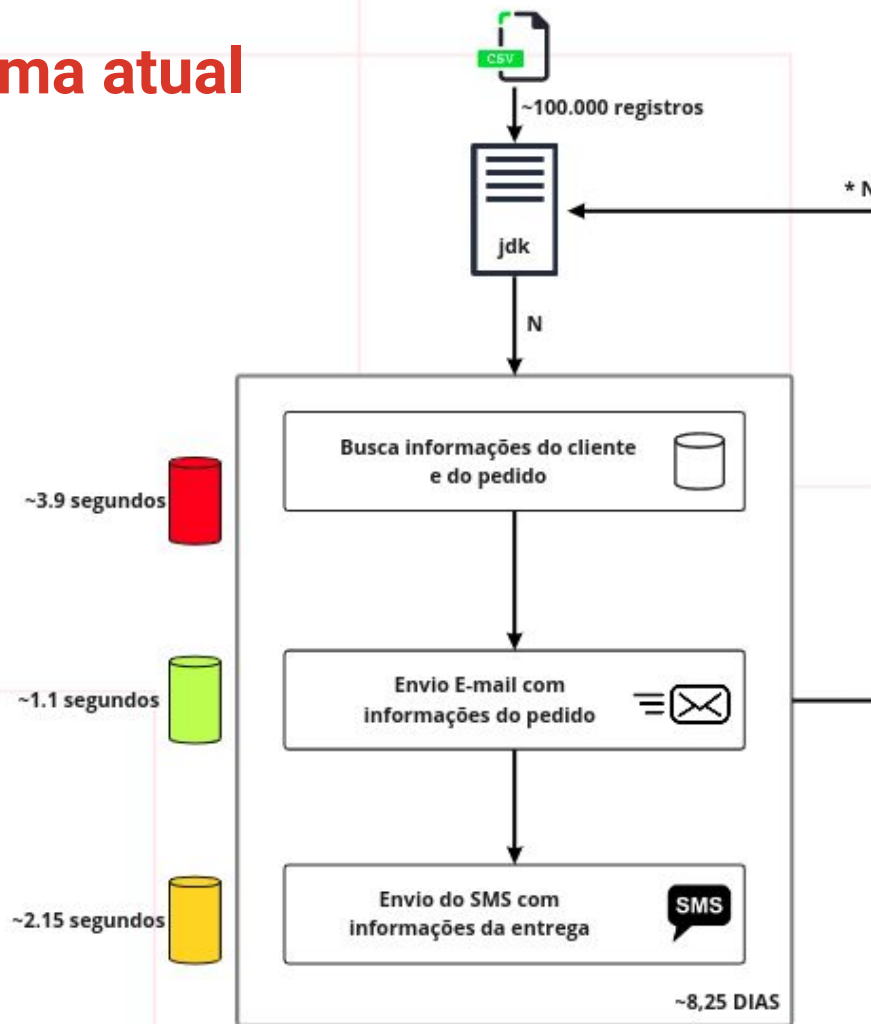
- **JDK 15 ou superior**
 - [Link para download](#)
- **IntelliJ ou IDE de sua preferência**
 - [Link para download](#) do IntelliJ
- **Maven**
 - [Link para download](#)



Etapa de descoberta do problema



Problema atual

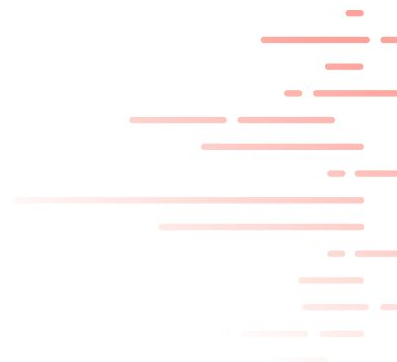


Refinamento técnicos e ideias de soluções



{ REST }

- RabbitMQ
- Comunicações Via API Rest/SOAP



Refinamento técnicos e ideias de soluções

Spring Boot

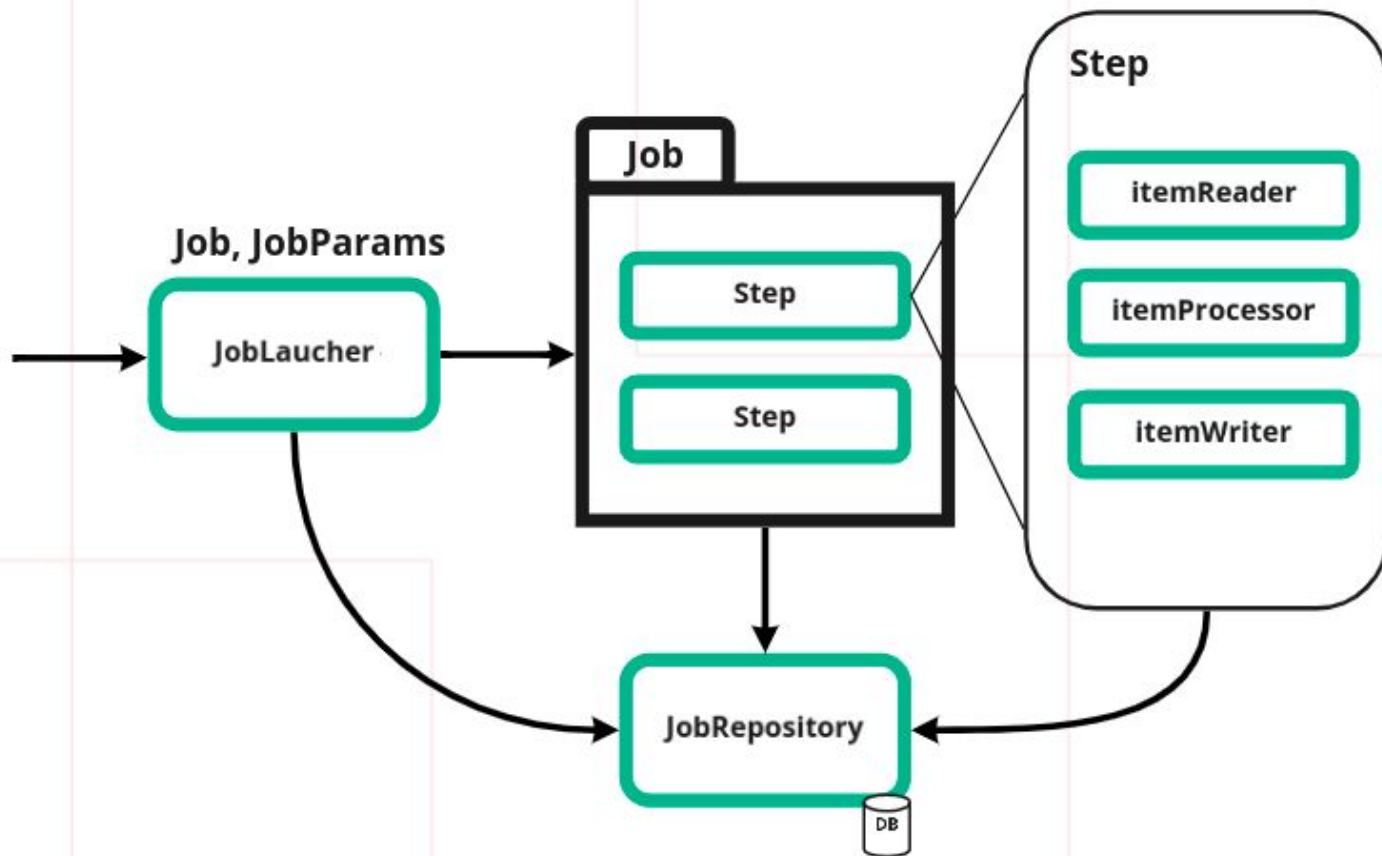


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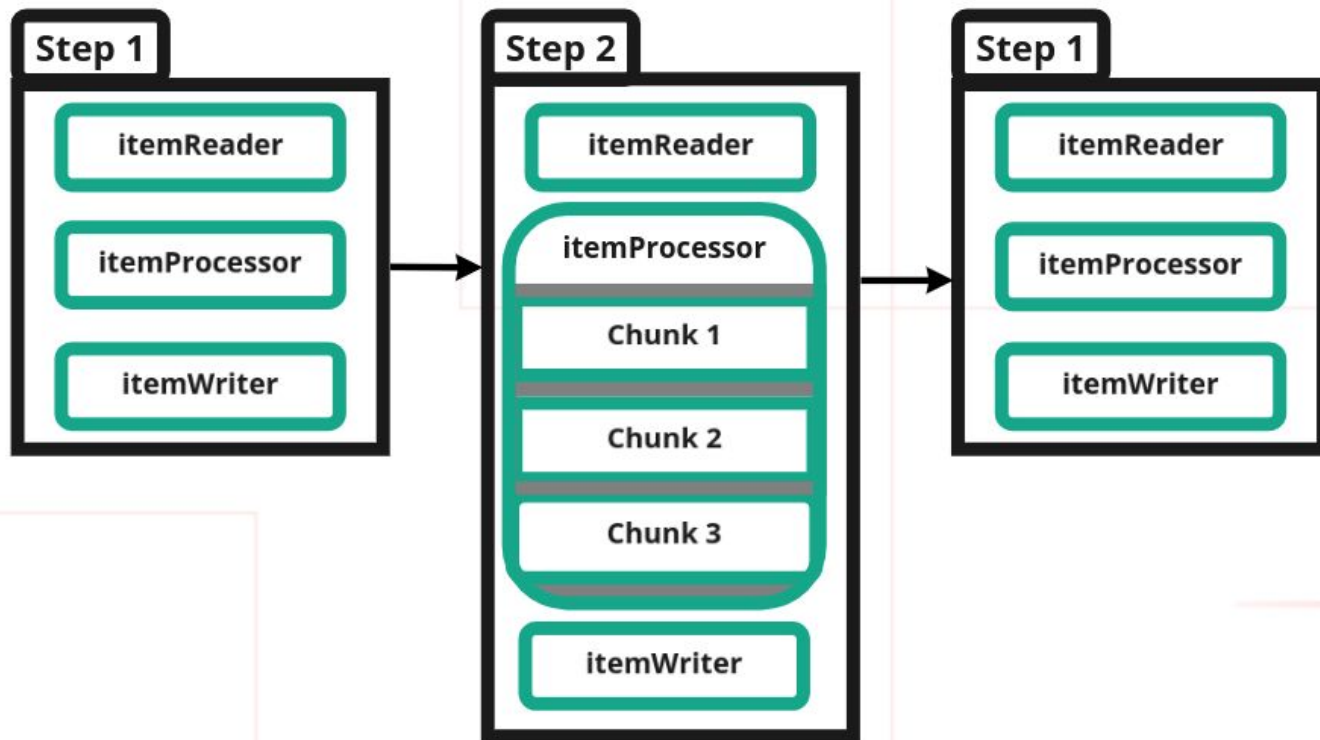
Spring Batch



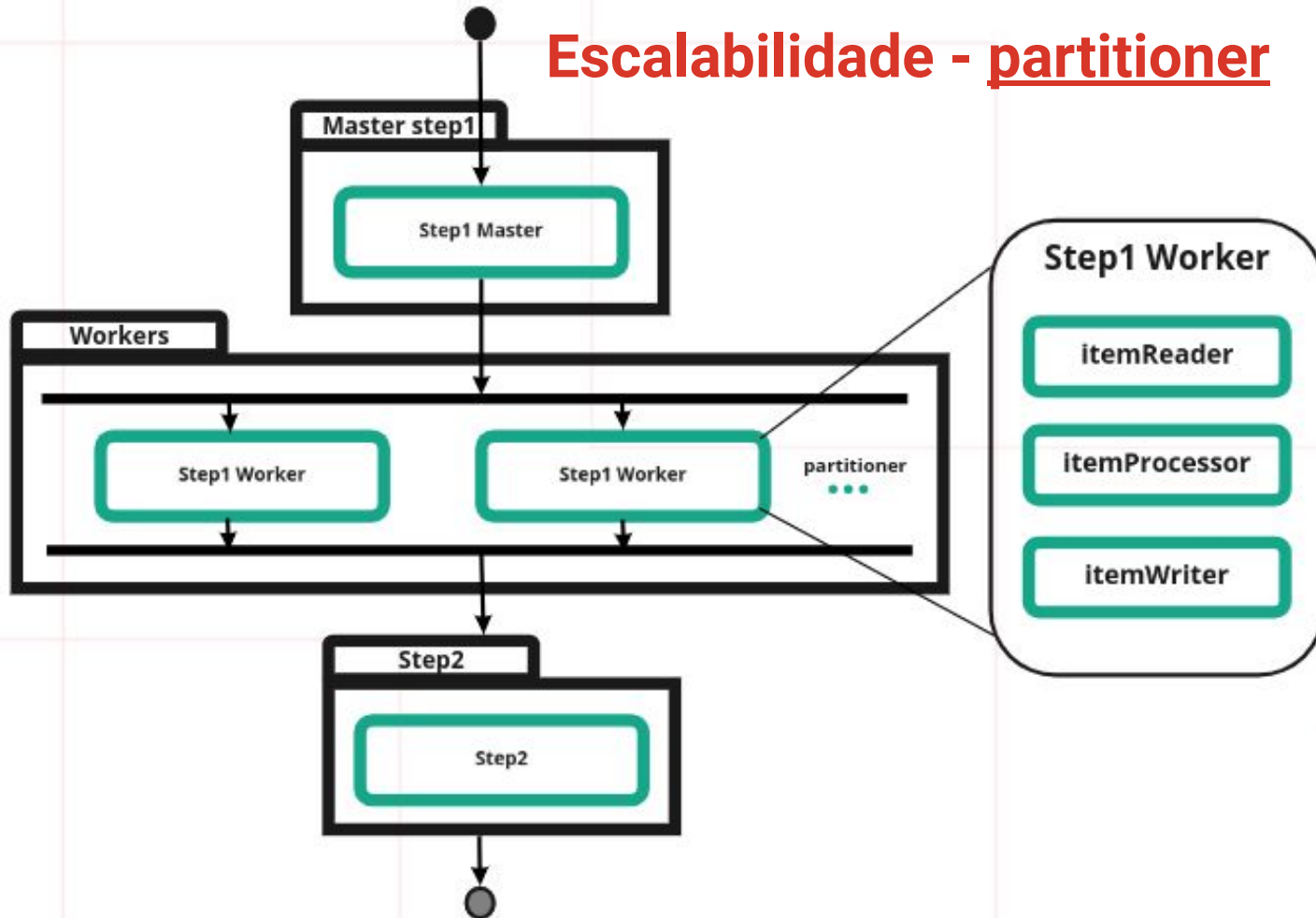
Spring Batch e sua arquitetura



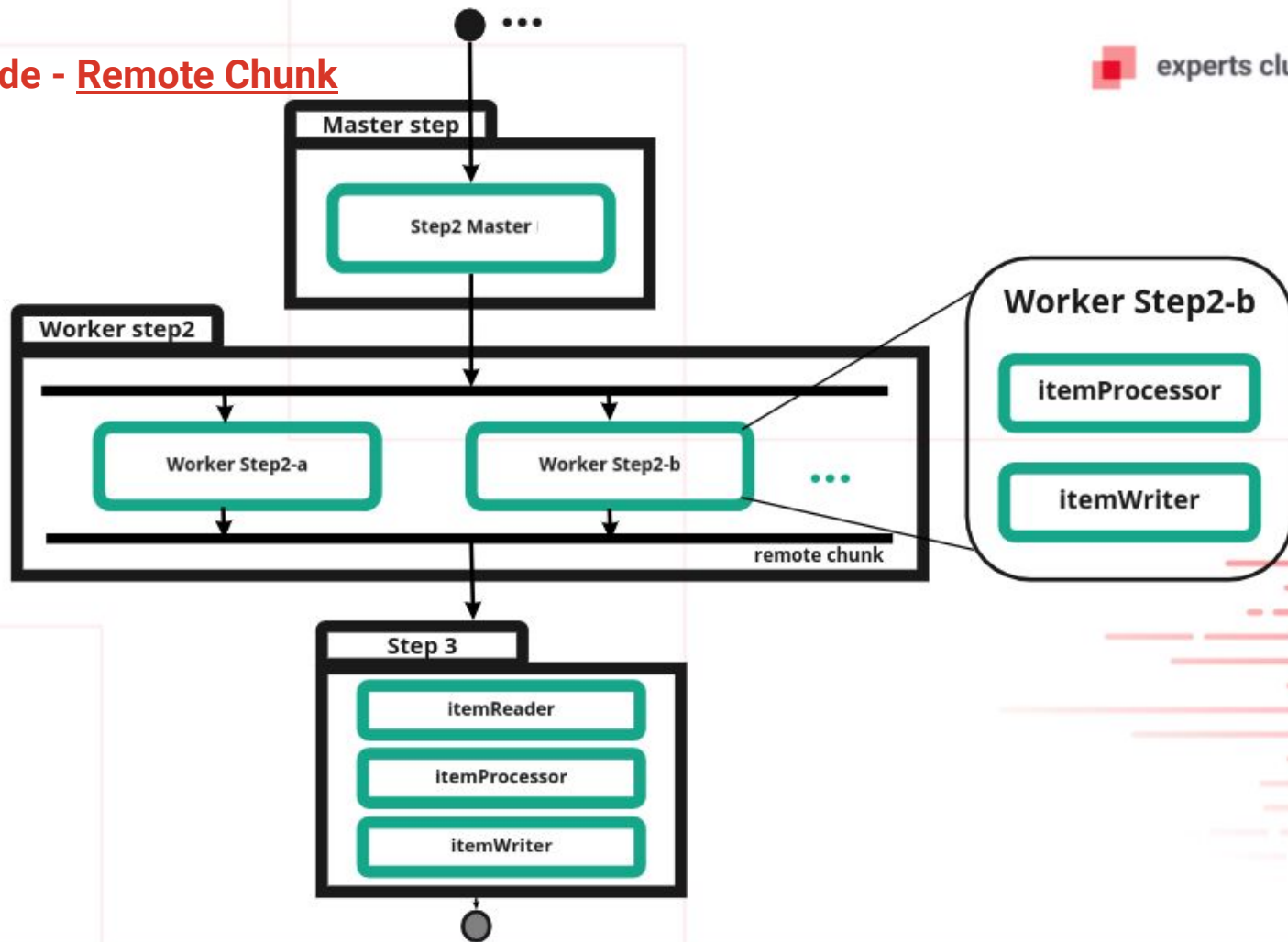
Escalabilidade - multithreading



Escalabilidade - partitioner



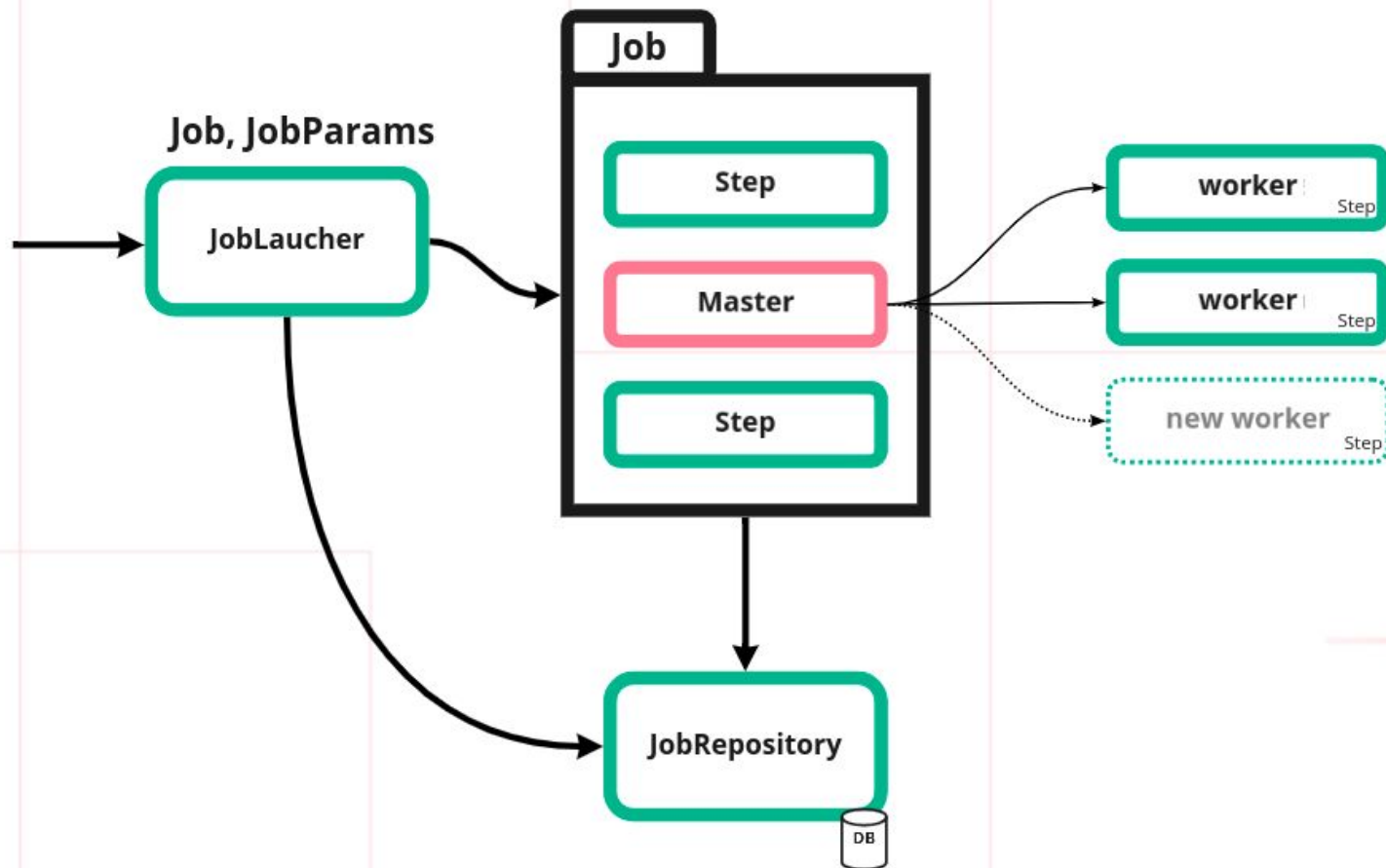
Escalabilidade - Remote Chunk

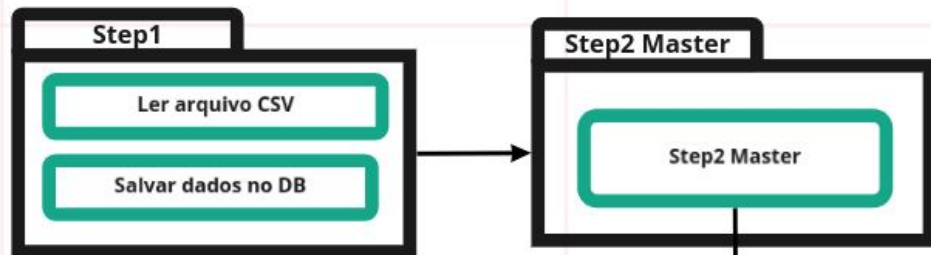


Qual foi solução adotada para solucionar o problema?

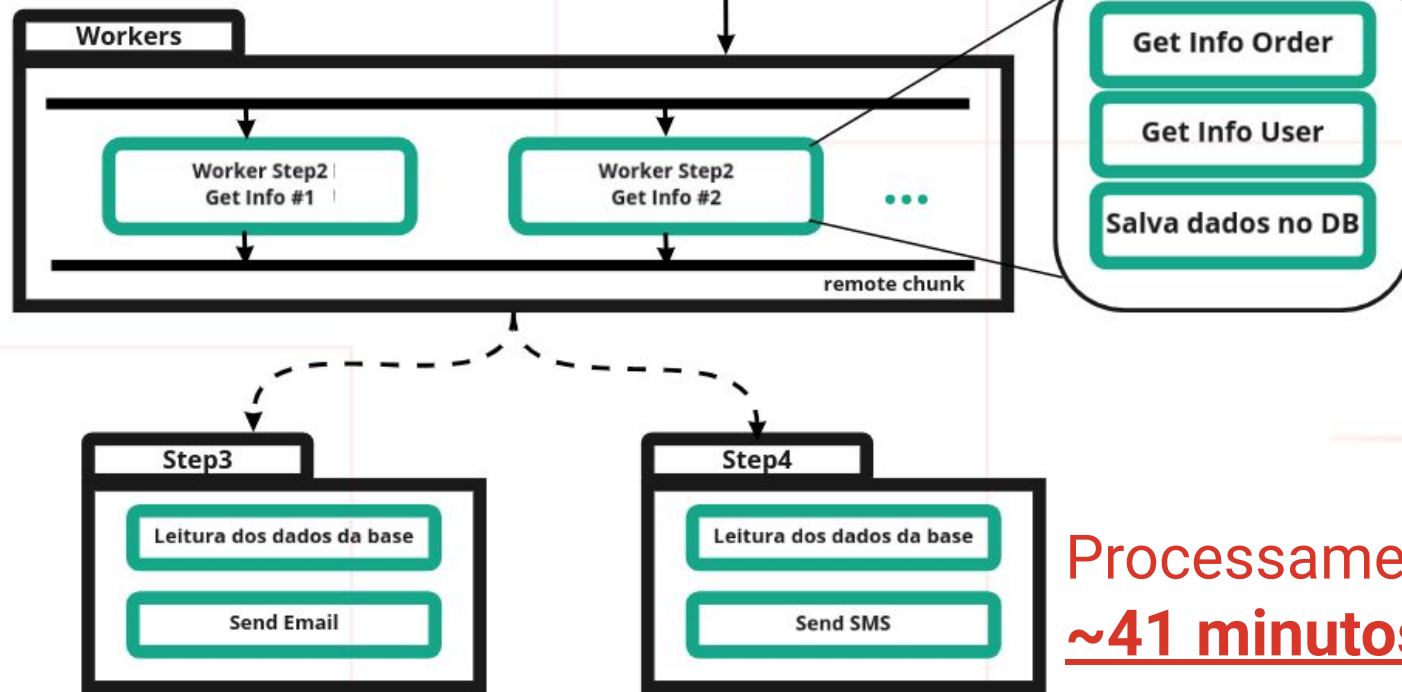
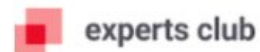


Solução Final - Remote Chunks





Solução Final



Processamento total em
~41 minutos

Execução single thread



Exemplo de execução single thread, com 100 mil registros

```
2022-02-21 16:13:56.751 INFO 1039514 --- [nio-8081-exec-1] o.s.batch.core.step.AbstractStep : Step: [step-get-info] executed in 39m14s649ms
2022-02-21 16:13:57.189 INFO 1039514 --- [      thread-1] o.s.batch.core.job.SimpleStepHandler : Executing step: [step-send-sms]
2022-02-21 16:13:57.190 INFO 1039514 --- [      thread-2] o.s.batch.core.job.SimpleStepHandler : Executing step: [step-send-email]
Step Send SMS Completed. Thread = thread-1
Step Send Email Completed. Thread = thread-2
2022-02-21 16:13:59.692 INFO 1039514 --- [      thread-1] o.s.batch.core.step.AbstractStep : Step: [step-send-sms] executed in 2s503ms
2022-02-21 16:13:59.692 INFO 1039514 --- [      thread-2] o.s.batch.core.step.AbstractStep : Step: [step-send-email] executed in 2s502ms
2022-02-21 16:13:59.889 INFO 1039514 --- [nio-8081-exec-1] o.s.b.c.l.support.SimpleJobLauncher : Job: [FlowJob: [name=Extract, transform, load]]
39m45s421ms
Execution: COMPLETED
Batch is Running...
```

Processamento em **39 minutos 45 segundos**



Execução multithreading



Exemplo de execução multithreading, com 100 mil registros

```
2022-02-21 16:48:21.136 INFO 1051543 --- [nio-8081-exec-1] o.s.batch.core.step.AbstractStep : Step: [step-get-info] executed in 16s33ms
2022-02-21 16:48:21.500 INFO 1051543 --- [      thread-76] o.s.batch.core.job.SimpleStepHandler : Executing step: [step-send-sms]
2022-02-21 16:48:21.501 INFO 1051543 --- [      thread-3] o.s.batch.core.job.SimpleStepHandler : Executing step: [step-send-email]
Step Send Email Completed. Thread = thread-3
Step Send SMS Completed. Thread = thread-76
2022-02-21 16:48:24.002 INFO 1051543 --- [      thread-3] o.s.batch.core.step.AbstractStep : Step: [step-send-email] executed in 2s501ms
2022-02-21 16:48:24.002 INFO 1051543 --- [      thread-76] o.s.batch.core.step.AbstractStep : Step: [step-send-sms] executed in 2s501ms
2022-02-21 16:48:24.154 INFO 1051543 --- [nio-8081-exec-1] o.s.b.c.l.support.SimpleJobLauncher : Job: [FlowJob: [name=Extract, transform, load]]
[{"time=1645472866113}] and the following status: [COMPLETED] in 37s849ms
Execution: COMPLETED
Batch is Running...
```

Processamento em **37 segundos e 33 milissegundos**



experts club

Obrigada / obrigado!

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