

Desenvolvimento de Sistemas Web

Anderson Luis

Histórico

01

Ineficiência na gestão de recursos

...

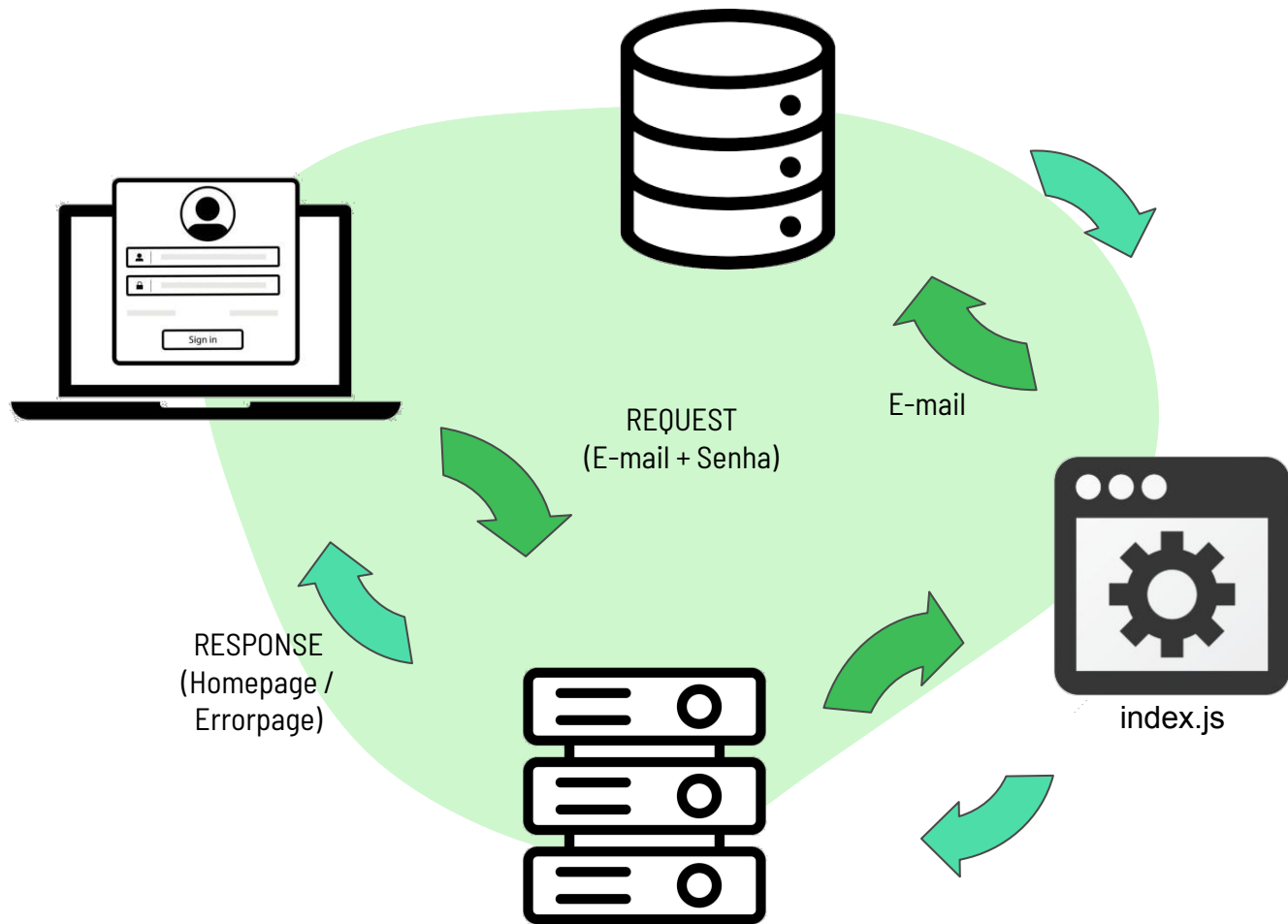
02

Client-side & Server-side

...



Ryan Dahl



Histórico

01

Ineficiência na gestão de recursos

...

02

Client-side & Server-side

...

03

Simplificação no desenvolvimento

...

04

Command Line Interface

...

05

V8 Engine

...

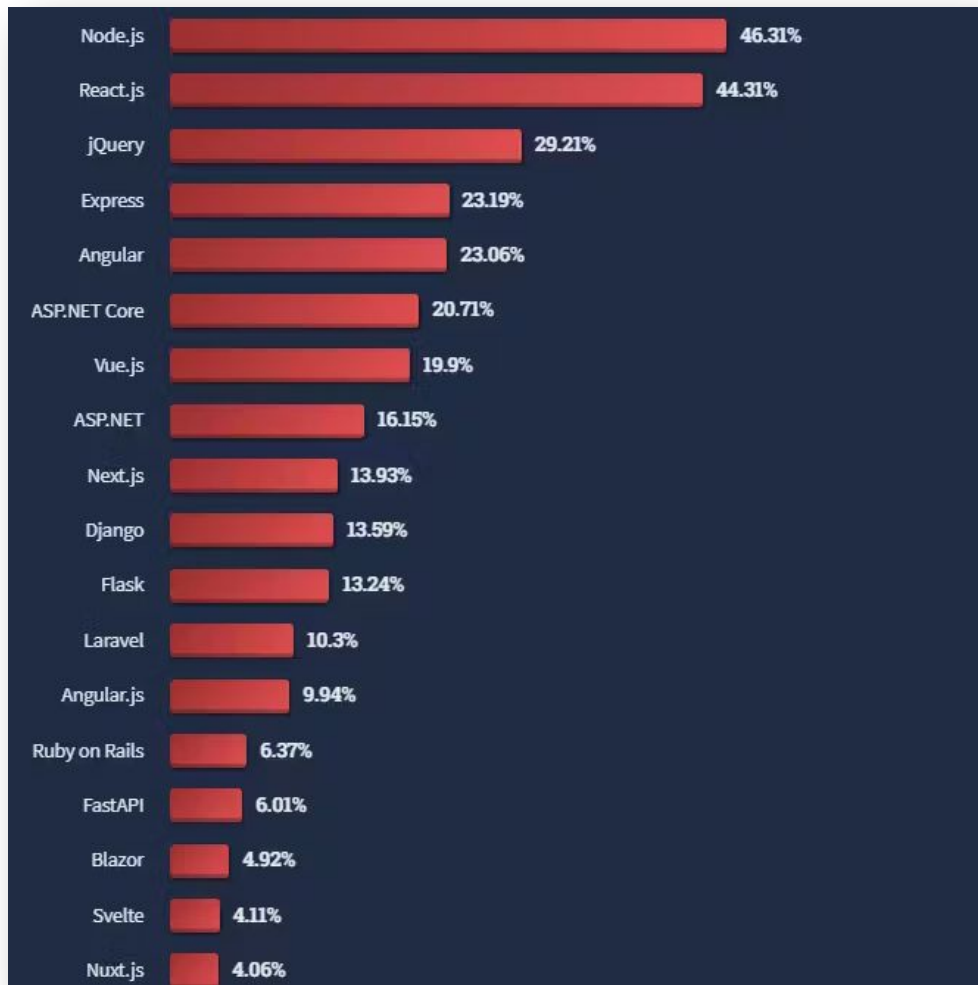


Ryan Dahl

O que é NODE?

"Node.js is an open-source and cross-platform JavaScript runtime environment."

- Não depende mais do interpretador do browser
- Ambiente Assíncrono Orientado a Evento
- Non-blocking



Vantagens



Utilização de Módulos



Ecossistema consolidado



Escalabilidade



Multiplataforma



Open-Source



Multi-paradigma

Concorrentes

Go



- Linguagem compilada
- Com Garbage Collector
- Concorrência & Paralelismo
- Sintaxe não habitual

Concorrentes

- Linguagem compilada
- Paradigma funcional
- Sistemas distribuídos de alto desempenho
- Códigos de fácil manutenção
- Desempenho reduzido



Concorrentes




- Linguagem compilada
- Focada em segurança & desempenho
- S.O. e Drivers
- Gerenciamento eficiente de memória
- Sem Garbage Collector

Exemplo Prático – Gerador QR



The screenshot shows the Visual Studio Code interface. On the left, the Explorer sidebar is open, showing a file named 'index.js' under a folder named '002-NODE'. The main editor area displays the content of 'index.js', which contains a single line of text: 'Open chat (Ctrl+I), or select a language (Ctrl+K M), or fi with template to get started. Start typing to dismiss or don't show this again.'

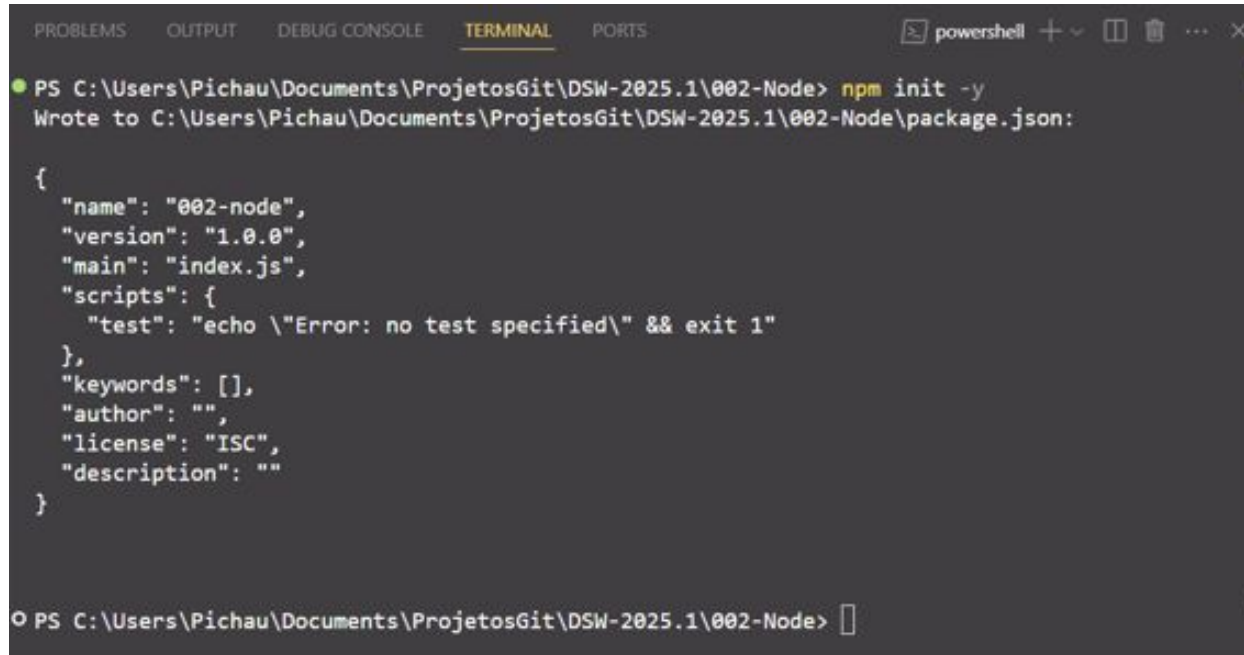
```
EXPLORER  ...  (); index.js  X
002-NODE
  (); index.js
    1  Open chat (Ctrl+I), or select a language (Ctrl+K M), or fi
      with template to get started.
      Start typing to dismiss or don't show this again.
```



The screenshot shows the Visual Studio Code terminal window. The terminal title bar indicates it is a 'powershell' session. The command prompt shows the current directory as 'C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node' and the command 'npm init -y' is being entered.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
O PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> npm init -y
```

Exemplo Prático – Gerador QR



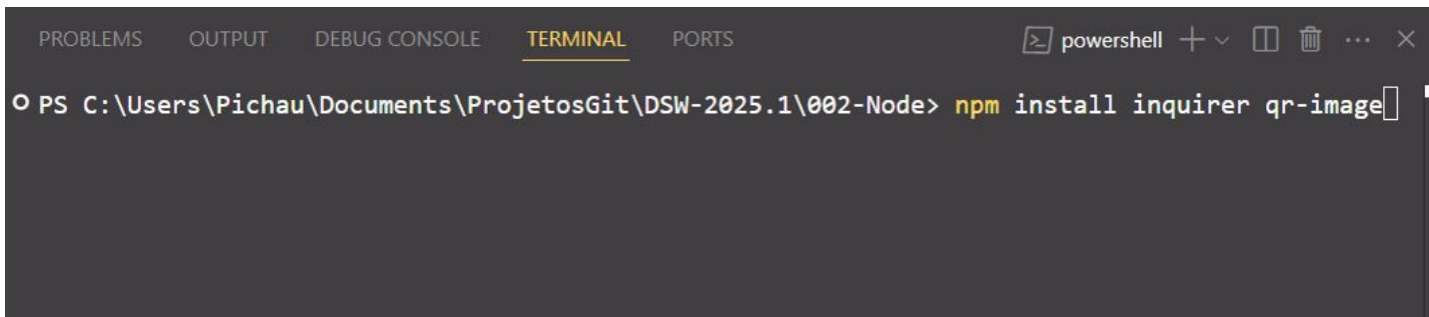
```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell + - [ ] [ ] ... X

PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> npm init -y
Wrote to C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node\package.json:

{
  "name": "002-node",
  "version": "1.0.0",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "description": ""
}

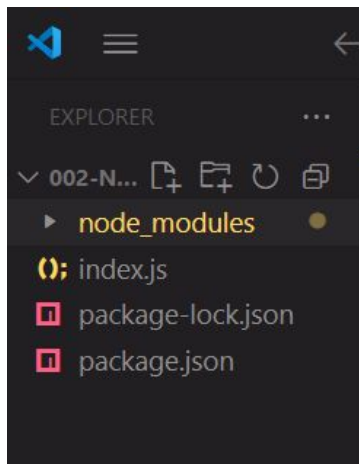
PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> [ ]
```

Exemplo Prático – Gerador QR



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell + - [ ] [ ] ... X
```

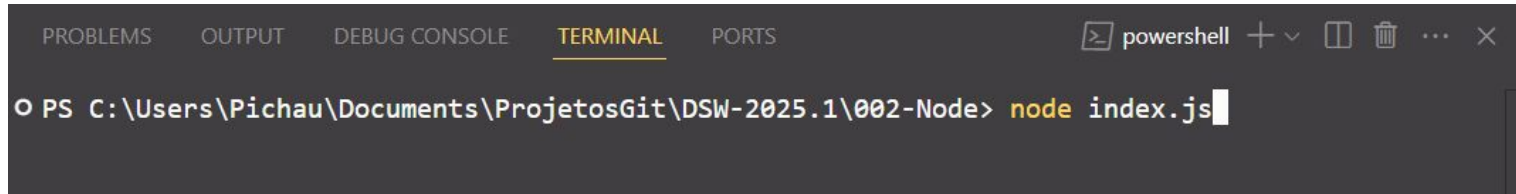
PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> npm install inquirer qr-image



Exemplo Prático – Gerador QR

```
index.js  X  ▶  □  ...  
index.js > ...  
1  import inquirer from "inquirer";  
2  import qr from "qr-image";  
3  import fs from "fs";  
4  
5  inquirer  
6    .prompt([  
7      {  
8        message: "Digite a URL: ",  
9        name: "URL"  
10     }  
11   ])  
12   .then((answer) => {  
13     const url = answer.URL;  
14     let qr_code = qr.image(url)  
15     qr_code.pipe(fs.createWriteStream("qr_image.png"))  
16   });
```

Exemplo Prático – Gerador QR



A screenshot of a terminal window with a dark background. The title bar at the top shows 'powershell' and standard window controls. The terminal content shows a PowerShell prompt 'PS' followed by the path 'C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node>' and the command 'node index.js' with a cursor at the end.

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell + - [ ] [X] ... X
```

```
O PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> node index.js
```

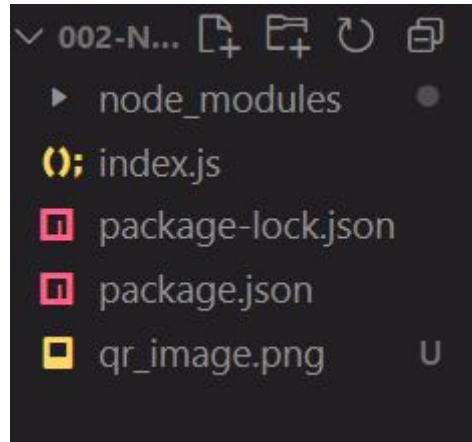
Exemplo Prático – Gerador QR

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS node + - [ ] [ ] ... X
O PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> node index.js
? Digite a URL: 
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS node + - [ ] [ ] ... X
O PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> node index.js
? Digite a URL: https://www.professoronline.uerj.br/login/po_login_professor.html
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell + - [ ] [ ] ... X
● PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> node index.js
✓ Digite a URL: https://www.professoronline.uerj.br/login/po_login_professor.html
O PS C:\Users\Pichau\Documents\ProjetosGit\DSW-2025.1\002-Node> 
```


Exemplo Prático – Gerador QR



Exemplo Prático – Gerador QR



Exemplo Prático – Gerador QR



Referências

- <https://www.x-apps.com.br/node-js>
- <https://www.alura.com.br/artigos/node-js?srsId=AfmB0orhqpmUR9l6eiZmniT-3N5Lg3Hspi2T52Yaqi-qpkd0BKbYJayfx>
- <https://kinsta.com/pt/blog/alternativas-do-node-js/>
- <https://nodejs.org/pt/learn/getting-started/introduction-to-nodejs>