API - Intro

Aplicações Web

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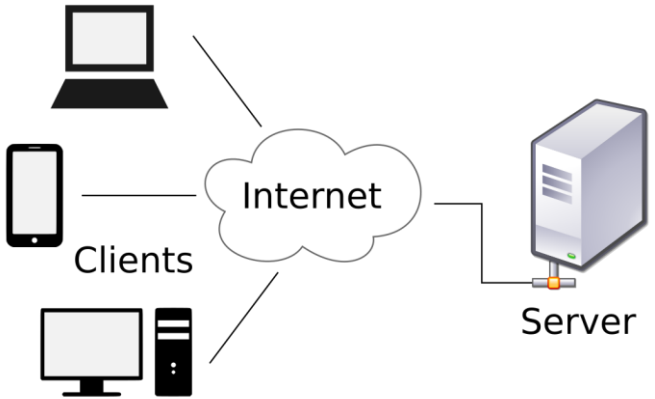
Programming / **web** development is divided into **two** major **domains**:

1. Development on the **client** side (front end);
2. **Server-side** development (back end).



Bootstrap
Vue.js
React
jQuery
write less, do more.

ASP.NET
Core
Java
python
php
node
express

Rest API Model

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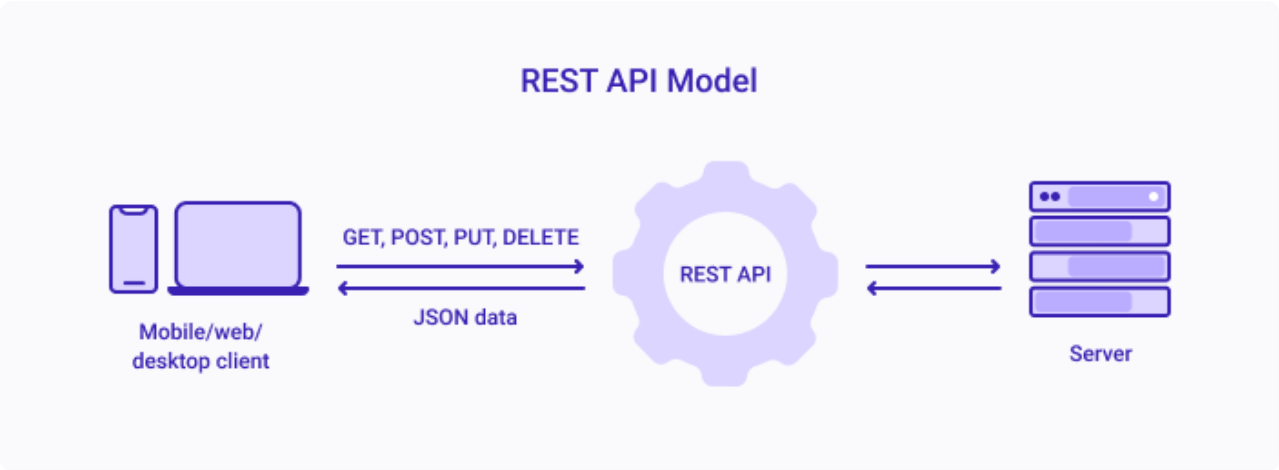


Rest API Model

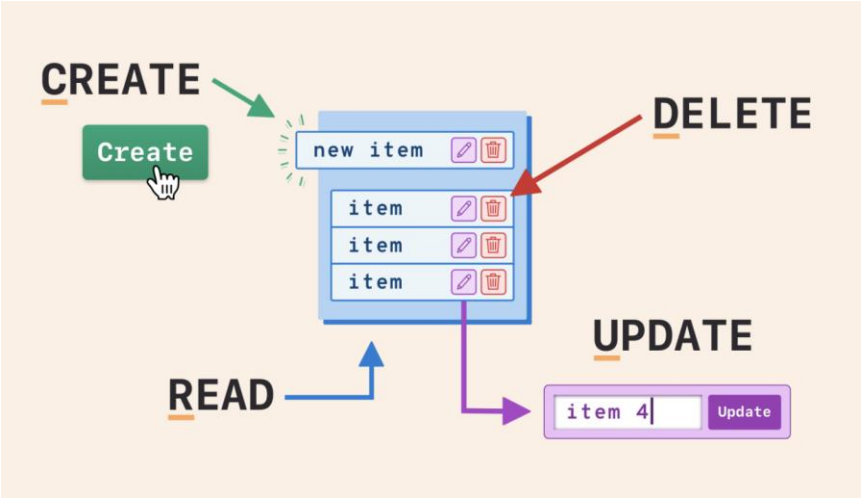
An API, or **application programming interface**, is a set of rules that define how applications or devices can connect to and communicate with each other.

https://www.ibm.com/topics/rest-apis

GET
PUT
POST
DELETE

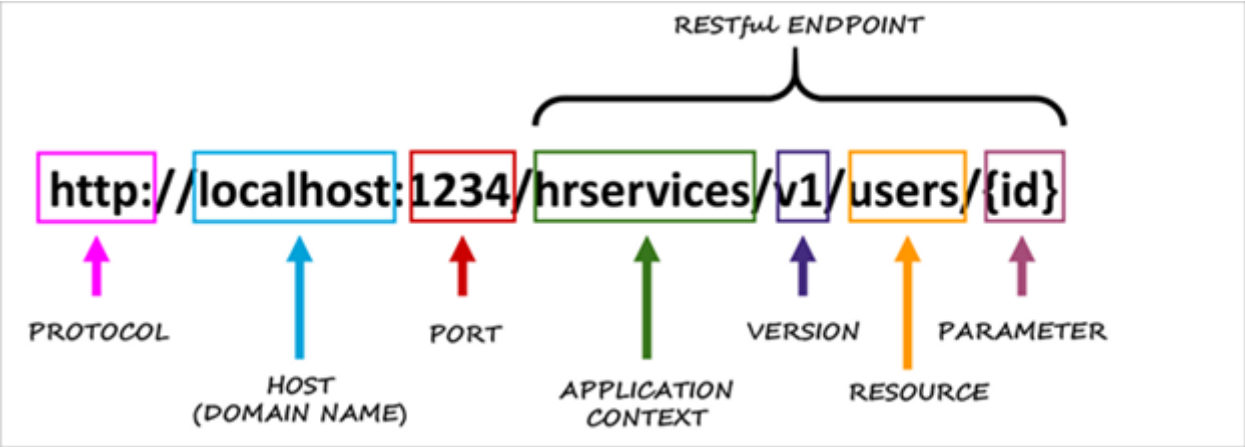
Web development
HTTP response status codes

https://tracy.hashnode.dev/http-response-status-codes



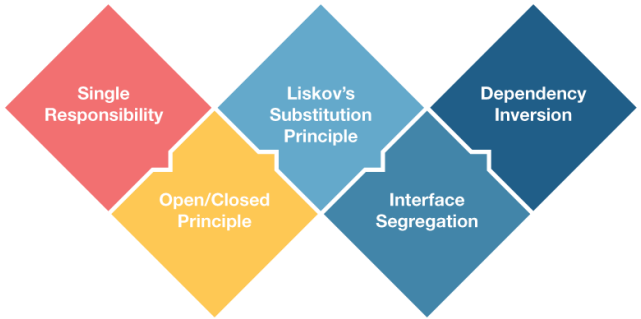
https://tracy.hashnode.dev/http-response-status-codes

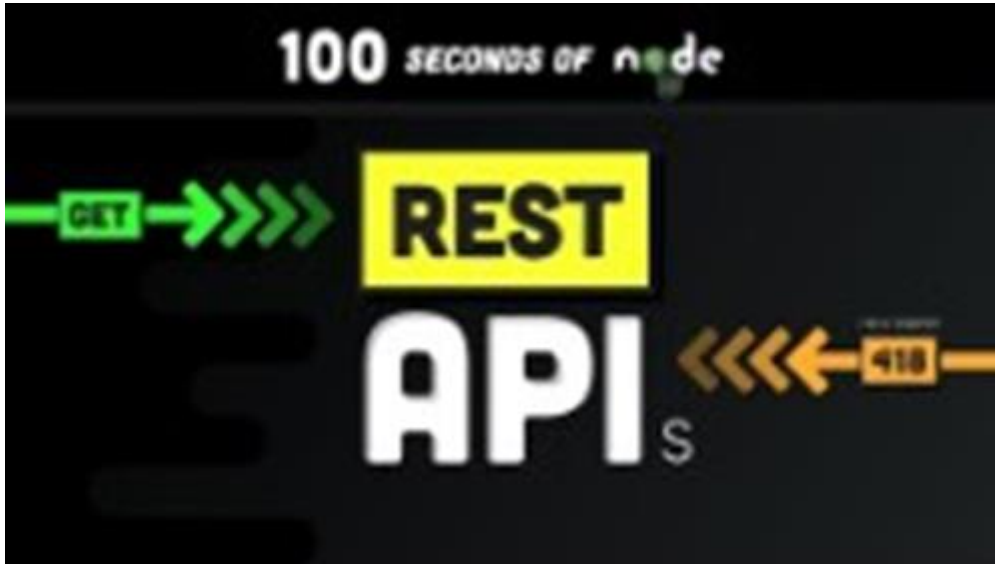
URL Anatomy



https://developer.mozilla.org/pt-BR/docs/Web/HTTP/Methods

S.O.L.I.D.


Single Responsibility
Liskov's Substitution Principle
Dependency Inversion
Open/Closed Principle
Interface Segregation


100 SECONDS OF node
GET
REST
API
S
418

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1. Criar conta no GitHub;
2. Criar um repositório – AW-P-EXEMPLO{{número-de-aluno}};
3. Instalar GitHub desktop e mapear o repositório;
4. Instalar node;
    1. https://nodejs.org/en
5. Instalar Postman;
    1. https://www.postman.com/
6. Abrir projeto mapeado com o VSCode;

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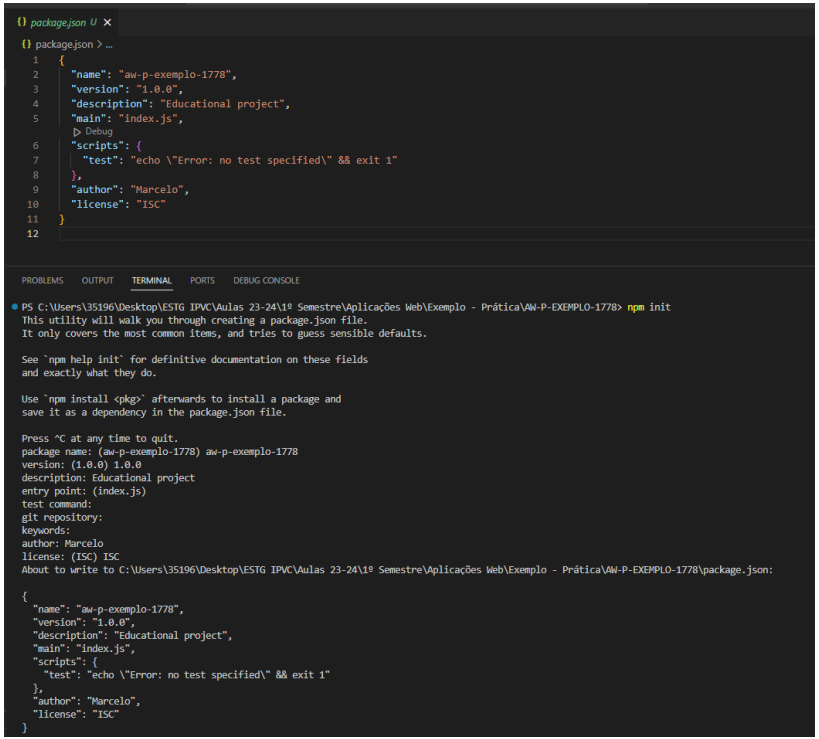
1. Abrir terminal e executar npm init;
2. Preencher os dados pedidos;
3. Executar:
    1. npm install express nodemon cors dotenv morgan --save
4. Criar ficheiro .env na raiz do projeto.

    SERVER_HOST=localhost

    SERVER_PORT=4242

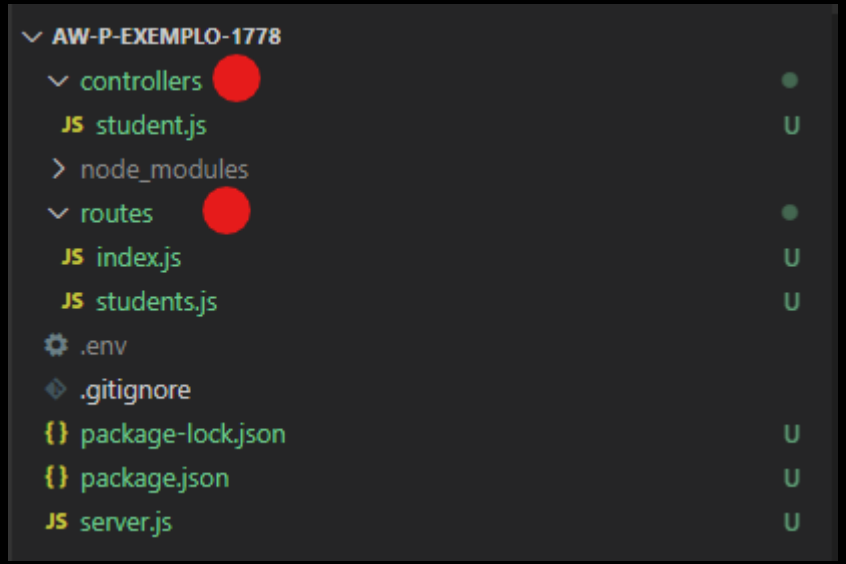


1. Criar ficheiro na raiz do projeto server.js
    1. Alterar no package.json "main": "server.js"
2. Adicionar script no package.json:
    1. "start": "node server.js“
3. Alterar ficheiro server.js:

server.js > ...

```
1   require('dotenv').config();
2
3   const bodyParser = require('body-parser');
4   const cors = require('cors');
5   const express = require('express');
6
7   const router = require('./routes/index.js');
8
9   const app = express();
10  app.use(bodyParser.json());
11  app.use(cors());
12
13  app.use('/api/', router);
14
15  const port = process.env.SERVER_PORT || 8080;
16  app.listen(port, () => {
17      console.log('Express server listening on port', port)
18  });
19
```

1. Criar a estrutura de pastas e ficheiros



1. Routes
    1. Index.js
    2. Students.js

index.js U

routes > index.js > ...

```
1   const router = require('express').Router();
2   const studentRouter = require('./students');
3
4   router.use('/students', studentRouter);
5
6   module.exports = router;
```

students.js U

routes > students.js > ...

```
1   const studentRouter = require('express').Router();
2   const controller = require('../controllers/student');
3
4   studentRouter.get('/', controller.getAll);
5   studentRouter.get('/:id', controller.getById);
6   studentRouter.post('/create', controller.create);
7   studentRouter.put('/update', controller.update);
8   studentRouter.delete('/delete', controller.delete);
9
10  module.exports = studentRouter;
```

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1. Controllers
    1. Student.js

student.js U

controllers > student.js > getAll

```
1   exports.getAll = async (req, res) => {
2       return res.send("ok");
3   }
4
5   exports.getById = async (req, res) => {
6       const id = req.params.id;
7
8       res.send(id);
9   }
10
11  exports.create = async (req, res) => {
12      const {name, city, age } = req.body;
13
14      return res.send({name, city, age });
15  }
16
17  exports.update = async (req, res) => {
18      const {name, city, age } = req.body;
19
20      return res.send({name, city, age });
21  }
22
23  exports.delete = async (req, res) => {
24      const id = req.body.id;
25      return res.send(id);
26  }
```

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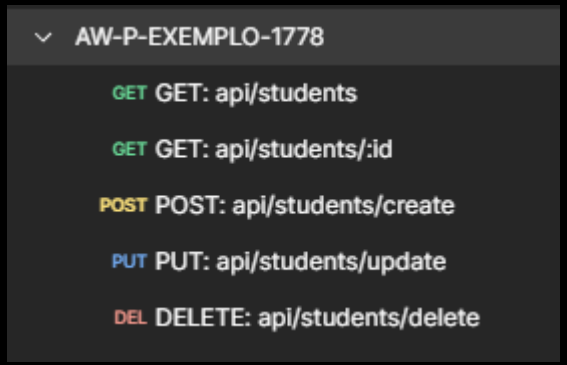
1. Executar no terminar npm start:
2. Testar no postman;
3. Push para o Git;



https://github.com/marcelowolfsmartindustries/AW-P-EXEMPLO-1778

o **teu** ● de partida

www.ipvc.pt