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Laboratório 03 - MackWebServer

- Arquivos fonte

```
/*Laboratorio de Computacao Distribuida
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Exercicio: MackWebServer */

package com.MackWebServer;

import java.io.*;
import java.net.ServerSocket;
import java.net.Socket;
import java.nio.charset.StandardCharsets;
import java.nio.file.Files;
import java.nio.file.Path;

public class Main
{
    public static void main( String[] args )
    {
        // cria o socket do servidor e escuta na porta 8082
        int port = 8082;
        try(ServerSocket serverSocket = new ServerSocket(port)){
            System.out.println("HTTP Server listening on port "+ port);

            while(true){
                // aceita conexoes de clientes ate ser encerrado
                // manualmente
                try(Socket clientSocket = serverSocket.accept()){
                    BufferedReader in = new BufferedReader(new
InputStreamReader(clientSocket.getInputStream()));
                    OutputStream out = clientSocket.getOutputStream();

                    // verifica a linha de requisicao
                    String requestLine = in.readLine();
                    if(requestLine == null || requestLine.isEmpty()){
                        System.out.println("Empty request line, closing
connection.");
                        continue;
                    }
                }
            }
        }
    }
}
```

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    }

    // separa a linha de requisicao em partes
    // e imprime o metodo, o caminho e a versao do http
    String[] requestParts = requestLine.split(" ");
    String method = requestParts[0];
    String path = requestParts[1];
    String httpVersion = requestParts[2];
    System.out.println("Request: " + method + " " + path +
" " + httpVersion);

    // le o resto do cabecalho e imprime
    String line;
    while(!(line = in.readLine()).isEmpty()){
        System.out.println("Header: "+ line);
    }

    // verifica se o metodo eh GET(unico permitido)
    if(!method.equals("GET")){
        String response = "HTTP/1.1 405 Method Not
Allowed\r\n" +

"Content-Type: text/plain\r\n"

+

"Content-Length: 0\r\n" +
"Connection: close\r\n" +
"\r\n";

out.write(response.getBytes(StandardCharsets.UTF_8));
        out.flush();
        continue;
    }
    // verifica se o caminho eh valido
    File file;
    if (path.equals("/")) {
        file = new File("www", "index.html");
    } else { // monta caminho relativo
        String filePath = path.startsWith("/") ?
path.substring(1) : path;
        file = new File("www", filePath);
    }

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        // verifica procedencia e existencia do arquivo
        if(file.exists() && file.isFile()){
            byte[] contentBytes =
Files.readAllBytes(file.toPath());

            String contentType = "text/html; charset=UTF-8";
            // se for de outro tipo, troca o content type
            if (file.getName().endsWith(".css")) {
                contentType = "text/css";
            } else if (file.getName().endsWith(".js")) {
                contentType = "application/javascript";
            }
            // monta resposta de sucesso e manda o cabeçalho e
o conteúdo do arquivo

            String responseHeader = "HTTP/1.1 200 OK\r\n" +
                "Content-Type: " +
contentType + "\r\n" +
                "Content-Length: " +
contentBytes.length + "\r\n" +
                "Connection: close\r\n" +
                "\r\n";

out.write(responseHeader.getBytes(StandardCharsets.UTF_8));
        out.write(contentBytes);
        System.out.println("Served file: " +
file.getPath());

        }else { // caso o arquivo nao exista, manda 404
            String responseBody = "<html><body><h1>404 Not
Found</h1></body></html>";
            byte[] contentBytes =
responseBody.getBytes(StandardCharsets.UTF_8);
            String responseHeader = "HTTP/1.1 404 Not
Found\r\n" +
                "Content-Type: text/html;
charset=UTF-8\r\n" +
                "Content-Length: " +
contentBytes.length + "\r\n" +
                "Connection: close\r\n" +
                "\r\n";

```

```

out.write(responseHeader.getBytes(StandardCharsets.UTF_8));
        out.write(contentBytes);
        System.out.println("File not found: " +
file.getPath());
    }
    out.flush();

    } catch(IOException e){
        System.err.println("Error handling client: "+
e.getMessage());
    }
}
}
catch(IOException e){
    System.err.println("Error starting server: "+ e.getMessage());
}
}
}

```

```

<!-- /*Laboratorio de Computacao Distribuida
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<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>MackWebServer</title>
</head>
<body>
    <h1>Você chegou a pagina da web!</h1>
    <p>Esta é uma página de exemplo servida pelo MackWebServer.</p>
</body>
</html>

```

```

<project xmlns="http://maven.apache.org/POM/4.0.0"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
http://maven.apache.org/maven-v4_0_0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.MackWebServer</groupId>
  <artifactId>MackWebServer</artifactId>
  <packaging>jar</packaging>
  <version>1.0-SNAPSHOT</version>
  <name>MackWebServer</name>
  <url>http://maven.apache.org</url>
  <dependencies>
    <dependency>
      <groupId>junit</groupId>
      <artifactId>junit</artifactId>
      <version>3.8.1</version>
      <scope>test</scope>
    </dependency>
  </dependencies>
</project>

```

- Testes

```

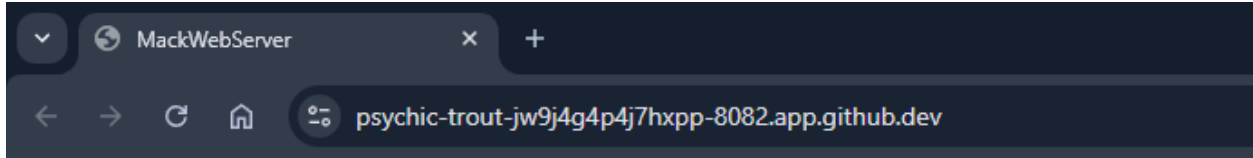
@joaquimrafael →/workspaces/compdist25-1-leduoaura-joca-rique/MackWebServer (main) $ mvn compile
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.MackWebServer:MackWebServer >-----
[INFO] Building MackWebServer 1.0-SNAPSHOT
[INFO]   from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ MackWebServer ---
[WARNING] Using platform encoding (UTF-8 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory /workspaces/compdist25-1-leduoaura-joca-rique/MackWebServer/src/main/resources
[INFO]
[INFO] --- compiler:3.13.0:compile (default-compile) @ MackWebServer ---
[INFO] Recompiling the module because of changed source code.
[WARNING] File encoding has not been set, using platform encoding UTF-8, i.e. build is platform dependent!
[INFO] Compiling 1 source file with javac [debug target 1.8] to target/classes
[WARNING] bootstrap class path not set in conjunction with -source 8
[WARNING] source value 8 is obsolete and will be removed in a future release
[WARNING] target value 8 is obsolete and will be removed in a future release
[WARNING] To suppress warnings about obsolete options, use -Xlint:-options.
[INFO]
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time:  1.585 s
[INFO] Finished at: 2025-04-05T01:59:07Z
[INFO]

```

```
@joaquimrafael →/workspaces/compdist25-1-leduoaura-joca-rique/MackWebServer (main) $ mvn exec:java -Dexec.mainClass="com.MackWebServer.Main"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< com.MackWebServer:MackWebServer >-----
[INFO] Building MackWebServer 1.0-SNAPSHOT
[INFO] from pom.xml
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- exec:3.5.0:java (default-cli) @ MackWebServer ---
```

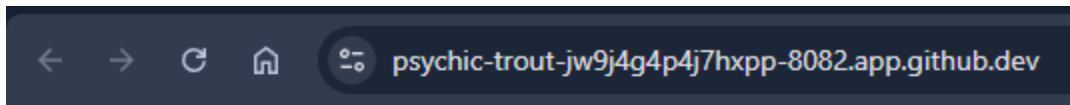
```
HTTP Server listening on port 8082
Request: GET / HTTP/1.1
Header: Accept: text/html, application/xhtml+xml, application/xml; q=0.9, image/avif, image/webp, image/apng, */*; q=0.8, application/signed-exchange; v=b3; q=0.7
Header: Host: localhost:8082
Header: User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.0.0 Safari/537.36
Header: Accept-Encoding: gzip, deflate, br, zstd
Header: Accept-Language: pt-BR, pt; q=0.9, en-US; q=0.8, en; q=0.7
Header: Referer: https://psychic-trout-jw9j4g4p4j7hxpp.github.dev/
Header: X-Request-ID: 60473cef11c90f8fd6414cfb625079cd
Header: X-Real-IP: 10.241.0.36
Header: X-Forwarded-Port: 443
Header: X-Forwarded-Scheme: https
Header: X-Original-URI: /
Header: X-Scheme: https
Header: sec-ch-ua: "Google Chrome";v="135", "Not-A.Brand";v="8", "Chromium";v="135"
Header: sec-ch-ua-mobile: ?0
Header: sec-ch-ua-platform: "Windows"
Header: sec-fetch-site: same-site
Header: sec-fetch-mode: navigate
Header: sec-fetch-user: ?1
Header: sec-fetch-dest: document
Header: priority: u=0, i
Header: x-original-proto: https
Header: X-Forwarded-Proto: https
Header: X-Forwarded-Host: psychic-trout-jw9j4g4p4j7hxpp-8082.app.github.dev
Header: X-Forwarded-For: 177.9.154.249
Header: Proxy-Connection: Keep-Alive
Served file: www/index.html
```

```
Request: GET / HTTP/1.1
Header: Accept: text/html, application/xhtml+xml, application/xml; q=0.9, image/avif, image/webp, image/apng, */*; q=0.8, application/signed-exchange; v=b3; q=0.7
Header: Host: localhost:8082
Header: User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/135.0.0.0 Safari/537.36
Header: Accept-Encoding: gzip, deflate, br, zstd
Header: Accept-Language: pt-BR, pt; q=0.9, en-US; q=0.8, en; q=0.7
Header: Referer: https://psychic-trout-jw9j4g4p4j7hxpp.github.dev/
Header: X-Request-ID: ead18e07d7d73ccc9ba47cca5a6d5e54
Header: X-Real-IP: 10.241.0.36
Header: X-Forwarded-Port: 443
Header: X-Forwarded-Scheme: https
Header: X-Original-URI: /
Header: X-Scheme: https
Header: sec-ch-ua: "Google Chrome";v="135", "Not-A.Brand";v="8", "Chromium";v="135"
Header: sec-ch-ua-mobile: ?0
Header: sec-ch-ua-platform: "Windows"
Header: sec-fetch-site: same-site
Header: sec-fetch-mode: navigate
Header: sec-fetch-user: ?1
Header: sec-fetch-dest: document
Header: priority: u=0, i
Header: x-original-proto: https
Header: X-Forwarded-Proto: https
Header: X-Forwarded-Host: psychic-trout-jw9j4g4p4j7hxpp-8082.app.github.dev
Header: X-Forwarded-For: 177.9.154.249
Header: Proxy-Connection: Keep-Alive
Served file: www/index.html
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Esta é uma página de exemplo servida pelo MackWebServer.



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Detalhe: github code spaces exige autenticação por usuário para acessar o endereço na porta 8082, por isso o endereço é diferente do comum.