

Министерство науки и высшего образования Российской Федерации  
федеральное государственное автономное образовательное учреждение  
высшего образования  
«Национальный исследовательский университет ИТМО»

Факультет Программной Инженерии и Компьютерной Техники

## **Итерация №2**

По дисциплине «Рефакторинг баз данных и приложений»

Группа: Р3412

Выполнили: Балин А. А.,  
Кобелев Р. П.

Проверил: Логинов И. П.

г. Санкт-Петербург  
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# Общее по второй итерации

Общий log:

```
PS F:\git\Information-System-Coursework> git log --oneline 'iter2-real-start^..iter2-end'
83e699a (HEAD -> main, tag: v2.0.0, tag: iter2-end, origin/main, origin/HEAD) Merge pull request #1 from Romariok/feat/part2
4133269 (origin/feat/part2, feat/part2) set ci executing only for main and release branches
fa9bb24 changed context path for backend processing in CI
634e279 add ci and releases workflows
c2192d2 Snyk report fix 1
362b272 Resolved issues found using snyk and spotbugs
70ccc25 replaced decreasing opacity with increasing blur when modals opens
91793eb move parser build to docker too
d8cd4ab ci in this tree too
fc49336 parser sources added
b33cc6b Merge branch 'feat/part2' of https://github.com/Romariok/Information-System-Coursework into feat/part2
b7ac67b update sportbugs version
5d65799 fail on error true
c9043f9 snyk and spotbugs for vulnerability reports in ci
9b83014 move markdown parser to async task
3c963be update sportbugs version
95a4c0e add docker builds for frontend and backend
2e6bef0 imported tainwindcss modules to front
061b417 fail on error true
779836f snyk and spotbugs for vulnerability reports in ci
e58c67b move markdown parser to async task
8293e1c Configured eslint and fix problems. Updated dependencies
d79c8a6 (tag: iter2-real-start) fixed tsx errors in front
```

Рисунок 1. Лог коммитов, которые были за всю вторую итерацию.

Из-за того, что мы начали работать в разных ветках, история коммитов после ребейза и слияния немного некрасиво вышла: есть повторяющиеся коммиты с разным хэшем, но одинаковыми изменениями. Поэтому в отчете мы их опустим, оставим только неповторяющиеся изменения.

# Выполнение

## Настройка линтинга кода для фронтенда

Коммиты: [1](#), [2](#), [3](#)

Добавили конфигурации для линтера файлов фронта (\*.js, \*.jsx, \*.ts, \*.tsx), воспользовались линтером, чтобы сделать код красивее. В этих коммитах как сама конфигурация, так и непосредственные изменения от линтера.

### Коммит 8293e1c

```
commit 8293e1c6e88b7833a8deb8656b10014d3db7e6dc
Author: Romariok <ronya-ko@yandex.ru>
Date:   Tue Nov 18 15:27:09 2025 +0300
```

Configured eslint and fix problems. Updated dependencies

```
diff --git a/front/eslint.config.js b/front/eslint.config.js
index 092408a..c2b3ae9 100644
--- a/front/eslint.config.js
+++ b/front/eslint.config.js
@@ -2,20 +2,26 @@ import js from '@eslint/js'
 import globals from 'globals'
 import reactHooks from 'eslint-plugin-react-hooks'
 import reactRefresh from 'eslint-plugin-react-refresh'
+import unusedImports from 'eslint-plugin-unused-imports'
 import tseslint from 'typescript-eslint'

 export default tseslint.config(
- { ignores: ['dist'] },
+ { ignores: ['dist', 'node_modules'] },
{
- extends: [js.configs.recommended,
...tseslint.configs.recommended],
- files: ['**/*.{ts,tsx}'],
+ files: ['**/*.{js,jsx,ts,tsx}'],
+ extends: [js.configs.recommended],
languageOptions: {
```

```
-      ecmaVersion: 2020,
-      globals: globals.browser,
+      ecmaVersion: 2022,
+      sourceType: 'module',
+      globals: {
+        ...globals.browser,
+        ...globals.node,
+      },
},
plugins: {
  'react-hooks': reactHooks,
  'react-refresh': reactRefresh,
+  'unused-imports': unusedImports,
},
rules: {
  ...reactHooks.configs.recommended.rules,
@@ -23,6 +29,33 @@ export default tseslint.config(
  'warn',
  { allowConstantExport: true },
],
+  'unused-imports/no-unused-imports': 'warn',
+  'unused-imports/no-unused-vars': [
+    'warn',
+    {
+      args: 'after-used',
+      argsIgnorePattern: '^_',
+      varsIgnorePattern: '^_',
+    },
+  ],
+  },
+ },
+ {
+   files: ['**/*.{ts,tsx}'],
+   extends: [...tseslint.configs.recommendedTypeChecked],
+   languageOptions: {
+     parserOptions: {
```

```
+      project: ['./tsconfig.app.json', './tsconfig.node.json'],
+      tsconfigRootDir: import.meta.dirname,
+    },
+  },
+  rules: {
+    '@typescript-eslint/no-floating-promises': 'error',
+    '@typescript-eslint/no-misused-promises': 'error',
+    '@typescript-eslint/consistent-type-imports': [
+      'warn',
+      { prefer: 'type-imports' },
+    ],
+  },
},
)
diff --git a/front/package-lock.json b/front/package-lock.json
index 624b4b1..fc9fae3 100644
--- a/front/package-lock.json
+++ b/front/package-lock.json
@@ -18,6 +18,7 @@
  },
  "devDependencies": {
    "@eslint/js": "^9.15.0",
+    "@tailwindcss/postcss": "^4.1.17",
    "@types/react": "^18.3.12",
    "@types/react-dom": "^18.3.1",
    "@vitejs/plugin-react": "^4.3.4",
@@ -25,9 +26,10 @@
    "eslint": "^9.15.0",
    "eslint-plugin-react-hooks": "^5.0.0",
    "eslint-plugin-react-refresh": "^0.4.14",
+    "eslint-plugin-unused-imports": "^4.0.0",
    "globals": "^15.12.0",
    "postcss": "^8.4.49",
-    "tailwindcss": "^3.4.16",
+    "tailwindcss": "^4.1.17",
    "typescript": "~5.6.2",
  }
}
```

```

    "typescript-eslint": "^8.15.0",
    "vite": "^6.0.1"
@@ -38,6 +40,7 @@
      "resolved": "https://registry.npmjs.org/@alloc/quick-lru/-/quick-lru-5.2.0.tgz",
      "integrity": "sha512-UrcABB+4bUrFABwbluTIBErXwvbsU/V7TZWfmbgJfbkwiBuziS9gxdODUyuiecdGQ85jglMW6juS3+z5TsKLw==",
      "dev": true,
+     "license": "MIT",
      "engines": {
        "node": ">=10"
      },
@@ -987,23 +990,6 @@
      "url": "https://github.com/sponsors/nzakas"
    }
  },
-   "node_modules/@isaacs/cliui": {
-     "version": "8.0.2",
-     "resolved": "https://registry.npmjs.org/@isaacs/cliui/-/cliui-8.0.2.tgz",
-     "integrity": "sha512-08jcjabXaleOG9DQ0+ARXWZBTfnP4WNAqzuiJK7ll44AmxGKv/J2M4TPjxjY3znBCfvBXFzucm1twdyFybFqEA==",
-     "dev": true,
-     "dependencies": {
-       "string-width": "^5.1.2",
-       "string-width-cjs": "npm:string-width@^4.2.0",
-       "strip-ansi": "^7.0.1",
-       "strip-ansi-cjs": "npm:strip-ansi@^6.0.1",
-       "wrap-ansi": "^8.1.0",
-       "wrap-ansi-cjs": "npm:wrap-ansi@^7.0.0"
-     },
-     "engines": {
-       "node": ">=12"
-     }
-   },
-   "node_modules/@jridgewell/gen-mapping": {

```

```

        "version": "0.3.8",
      "resolved": "https://registry.npmjs.org/@jridgewell/gen-
mapping/-/gen-mapping-0.3.8.tgz",
@@ -1018,6 +1004,17 @@
          "node": ">=6.0.0"
        }
      },
+  "node_modules/@jridgewell/remapping": {
+    "version": "2.3.5",
+    "resolved": "https://registry.npmjs.org/@jridgewell/remapping/-/
remapping-2.3.5.tgz",
+                                         "integrity": "sha512-
LI9u/+laYG4Ds1TDKSJW2YPrIlcVY0wi2fUC6xB43lueCjgxV4lff0CZCtYFiH6TNOX+
tQKXX97T4IKHbhYHEQ==",
+    "dev": true,
+    "license": "MIT",
+    "dependencies": {
+      "@jridgewell/gen-mapping": "^0.3.5",
+      "@jridgewell/trace-mapping": "^0.3.24"
+    }
+  },
  "node_modules/@jridgewell/resolve-uri": {
    "version": "3.1.2",
    "resolved": "https://registry.npmjs.org/@jridgewell/resolve-
uri/-/resolve-uri-3.1.2.tgz",
@@ -1037,10 +1034,11 @@
    }
  },
  "node_modules/@jridgewell/source-map-codec": {
-    "version": "1.5.0",
-    "resolved": "https://registry.npmjs.org/@jridgewell/source-map-
codec/-/source-map-codec-1.5.0.tgz",
-                                         "integrity": "sha512-
gv3ZRaISU3fjPAgNsriBRqGWQL6quFx04YMPW/zD8XMLsU32mhCCfb06KZFLjvYpCZ8
zyDEgqsgf+PwPaM7GQ==",
-    "dev": true
+    "version": "1.5.5",
+    "resolved": "https://registry.npmjs.org/@jridgewell/source-map-
codec/-/source-map-codec-1.5.5.tgz",

```

```

+
+           "integrity":      "sha512-
cYQ9310grqxueWbl+WuIUIaiUaDcj7W0q5fVhEljNVgRfOUhY9fy2zTvfoqWsnebh8Sl
70VScFbICvJnLKB00g==",
+
+           "dev": true,
+
+           "license": "MIT"
+
},
"node_modules/@jridgewell/trace-mapping": {
    "version": "0.3.25",
@@ -1087,16 +1085,6 @@
        "node": ">= 8"
    }
},
-
"node_modules/@pkgjs/parseargs": {
-
    "version": "0.11.0",
-
        "resolved": "https://registry.npmjs.org/@pkgjs/parseargs/-/
parseargs-0.11.0.tgz",
-
            "integrity":      "sha512-
+1VkjDD0QBLPodGrJUeqarH8VAIvQODIBwh9XpP5Syisf7YoQgsJKPNFoqqLQl
VSshMR6loPMn8U+dPg==",
-
            "dev": true,
-
            "optional": true,
-
            "engines": {
-
                "node": ">=14"
-
            }
-
        },
-
        "node_modules/@rollup/rollup-android-arm-eabi": {
-
            "version": "4.52.5",
-
                "resolved":      "https://registry.npmjs.org/@rollup/rollup-
android-arm-eabi/-/rollup-android-arm-eabi-4.52.5.tgz",
@@ -1405,6 +1393,277 @@
                "win32"
            ]
},
+
"node_modules/@tailwindcss/node": {
+
    "version": "4.1.17",
+
        "resolved": "https://registry.npmjs.org/@tailwindcss/node/-/
node-4.1.17.tgz",

```

```

+
+           "integrity":      "sha512-
csIkHIgLb3JisEFQ0vxr2Y57GUNYh447C8xzwj89U/8fdW8LhProdXvnVH6U8M2Y73QK
iTlH+LWbK3V2BBZsAg==",
+
+       "dev": true,
+
+       "license": "MIT",
+
+       "dependencies": {
+
+           "@jridgewell/remapping": "^2.3.4",
+
+           "enhanced-resolve": "^5.18.3",
+
+           "jiti": "^2.6.1",
+
+           "lightningcss": "1.30.2",
+
+           "magic-string": "^0.30.21",
+
+           "source-map-js": "^1.2.1",
+
+           "tailwindcss": "4.1.17"
+
+       }
+
+   },
+
+   "node_modules/@tailwindcss/oxide": {
+
+       "version": "4.1.17",
+
+       "resolved": "https://registry.npmjs.org/@tailwindcss/oxide/-/
oxide-4.1.17.tgz",
+
+           "integrity":      "sha512-
F0F7d01fmkQhsTjXezGBLdrl1KresJTcI3DB8EkScCldyKp3Msz4hub4uyYaVnk88BAS
1g5DQjjF6F5qcuheLA==",
+
+       "dev": true,
+
+       "license": "MIT",
+
+       "engines": {
+
+           "node": ">= 10"
+
+       },
+
+       "optionalDependencies": {
+
+           "@tailwindcss/oxide-android-arm64": "4.1.17",
+
+           "@tailwindcss/oxide-darwin-arm64": "4.1.17",
+
+           "@tailwindcss/oxide-darwin-x64": "4.1.17",
+
+           "@tailwindcss/oxide-freebsd-x64": "4.1.17",
+
+           "@tailwindcss/oxide-linux-arm-gnueabihf": "4.1.17",
+
+           "@tailwindcss/oxide-linux-arm64-gnu": "4.1.17",
+
+           "@tailwindcss/oxide-linux-arm64-musl": "4.1.17",
+
+           "@tailwindcss/oxide-linux-x64-gnu": "4.1.17",
+
+           "@tailwindcss/oxide-linux-x64-musl": "4.1.17",
+
+           "@tailwindcss/oxide-wasm32-wasi": "4.1.17",

```

```

+
    "@tailwindcss/oxide-win32-arm64-msvc": "4.1.17",
+
    "@tailwindcss/oxide-win32-x64-msvc": "4.1.17"
+
}
+
},
+
"node_modules/@tailwindcss/oxide-android-arm64": {
+
    "version": "4.1.17",
+
        "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
android-arm64/-/oxide-android-arm64-4.1.17.tgz",
+
                                            "integrity":      "sha512-
BMqpkJHg0Z5z78qqiGE6ZIRExyaHyuxjgrJ6eB05+hfrfGkuya0lYfw8fRHG77gdTjWk
NWEEm+qeG2cDMxArLQ==",
+
    "cpu": [
+
        "arm64"
+
    ],
+
    "dev": true,
+
    "license": "MIT",
+
    "optional": true,
+
    "os": [
+
        "android"
+
    ],
+
    "engines": {
+
        "node": ">= 10"
+
    }
+
},
+
"node_modules/@tailwindcss/oxide-darwin-arm64": {
+
    "version": "4.1.17",
+
        "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
darwin-arm64/-/oxide-darwin-arm64-4.1.17.tgz",
+
                                            "integrity":      "sha512-
EquyumkQweUBNk1zGEU/wfZo2qkp/nQKRZM8bUY00J+Lums5+wl2CcG1f9BgAjn/u9pJ
zdYddHWBiFXJTcxm0g==",
+
    "cpu": [
+
        "arm64"
+
    ],
+
    "dev": true,
+
    "license": "MIT",
+
    "optional": true,
+
    "os": [

```

```

+      "darwin"
+
+    ],
+
+    "engines": {
+
+      "node": ">= 10"
+
+    }
+
+  },
+
+  "node_modules/@tailwindcss/oxide-darwin-x64": {
+
+    "version": "4.1.17",
+
+    "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+darwin-x64/-/oxide-darwin-x64-4.1.17.tgz",
+
+    "integrity": "sha512-
gdhEPLzke2Pog8s12oADwYu0IAw04Y2tlmgVzIN0+046ytcgx8uZmCzEg4VcQh+AHKiS
7xaL8kGo/QTiNEGrog==",
+
+    "cpu": [
+
+      "x64"
+
+    ],
+
+    "dev": true,
+
+    "license": "MIT",
+
+    "optional": true,
+
+    "os": [
+
+      "darwin"
+
+    ],
+
+    "engines": {
+
+      "node": ">= 10"
+
+    }
+
+  },
+
+  "node_modules/@tailwindcss/oxide-freebsd-x64": {
+
+    "version": "4.1.17",
+
+    "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+freebsd-x64/-/oxide-freebsd-x64-4.1.17.tgz",
+
+    "integrity": "sha512-
hxGS81KskMxML9DXsaXT1H0DyA+ZBIbyG/sSAjWNe2EDl7TkPOBI42GBV3u38itzGU0m
FfCzk1iAjDXds80h0g==",
+
+    "cpu": [
+
+      "x64"
+
+    ],
+
+    "dev": true,
+
+    "license": "MIT",

```

```

+      "optional": true,
+
+      "os": [
+        "freebsd"
+      ],
+
+      "engines": {
+
+        "node": ">= 10"
+
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-linux-arm-gnueabihf": {
+
+      "version": "4.1.17",
+
+      "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+      linux-arm-gnueabihf/-/oxide-linux-arm-gnueabihf-4.1.17.tgz",
+
+      "integrity": "sha512-
+      k7jWk5E3ldAdw0cNglhjSgv501u7yrMf8oeZ0cElhxU6Y2o7f8yqel0p3fhf7evjIS6u
+      jTI3U8pKUXV2I4iXHQ==",
+
+      "cpu": [
+
+        "arm"
+
+      ],
+
+      "dev": true,
+
+      "license": "MIT",
+
+      "optional": true,
+
+      "os": [
+
+        "linux"
+
+      ],
+
+      "engines": {
+
+        "node": ">= 10"
+
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-linux-arm64-gnu": {
+
+      "version": "4.1.17",
+
+      "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+      linux-arm64-gnu/-/oxide-linux-arm64-gnu-4.1.17.tgz",
+
+      "integrity": "sha512-
+      HVDOm/mxK6+TbARwdW17WrgDYEGzmoYayrCgmLEw7FxTPLcp/glBisuyWkFz/jb7ZfiA
+      XAXUACfyItn+nTgsdQ==",
+
+      "cpu": [
+
+        "arm64"
+
+      ],

```

```

+      "dev": true,
+      "license": "MIT",
+      "optional": true,
+      "os": [
+        "linux"
+      ],
+      "engines": {
+        "node": ">= 10"
+      }
+    },
+    "node_modules/@tailwindcss/oxide-linux-arm64-musl": {
+      "version": "4.1.17",
+      "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+      linux-arm64-musl/-/oxide-linux-arm64-musl-4.1.17.tgz",
+      "integrity": "sha512-
HvZLfGr42i5anKtIeQzxdkw/wPqIbpeZqe7vd3V9vI3RQxe3xU1fLjss0TjyhxCBaip
k7NYwSrTwK1hJARMg==",
+      "cpu": [
+        "arm64"
+      ],
+      "dev": true,
+      "license": "MIT",
+      "optional": true,
+      "os": [
+        "linux"
+      ],
+      "engines": {
+        "node": ">= 10"
+      }
+    },
+    "node_modules/@tailwindcss/oxide-linux-x64-gnu": {
+      "version": "4.1.17",
+      "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+      linux-x64-gnu/-/oxide-linux-x64-gnu-4.1.17.tgz",
+      "integrity": "sha512-
M3XZuORCGB7VPOEDH+nzpJ21XPvK5PyjlkSFkFziNHGLc5d6g3di2McAAblmaSUNl8IO
mzYwLx9NsE7bpLNkwQ==",
+      "cpu": [

```

```
+      "x64"
+
+    ],
+
+    "dev": true,
+
+    "license": "MIT",
+
+    "optional": true,
+
+    "os": [
+
+      "linux"
+
+    ],
+
+    "engines": {
+
+      "node": ">= 10"
+
+    }
+
+  },
+
+  "node_modules/@tailwindcss/oxide-linux-x64-musl": {
+
+    "version": "4.1.17",
+
+    "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+linux-x64-musl/-/oxide-linux-x64-musl-4.1.17.tgz",
+
+    "integrity": "sha512-
+k7f+pf9eXLEey4pBlw+8dgfJHY4PZ5q0UFDyNf7SI6lHjQ9Zt7+NcscjpwdCEbYi6FI5
+c2KDTDWyf2iHcCSyyQ==",
+
+    "cpu": [
+
+      "x64"
+
+    ],
+
+    "dev": true,
+
+    "license": "MIT",
+
+    "optional": true,
+
+    "os": [
+
+      "linux"
+
+    ],
+
+    "engines": {
+
+      "node": ">= 10"
+
+    }
+
+  },
+
+  "node_modules/@tailwindcss/oxide-wasm32-wasi": {
+
+    "version": "4.1.17",
+
+    "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
+wasm32-wasi/-/oxide-wasm32-wasi-4.1.17.tgz",
```

```

+
+           "integrity":      "sha512-
cEytGqSSoy7zK4JRWiTxC43FsKP/zGr0CsuMawhH670NlH+T79VteQeJQR0/X7L0juEU
A8ZyuYikcRBf0vsxhg==",
+
+       "bundleDependencies": [
+
+         "@napi-rs/wasm-runtime",
+
+         "@emnapi/core",
+
+         "@emnapi/runtime",
+
+         "@tybys/wasm-util",
+
+         "@emnapi/wasi-threads",
+
+         "tslib"
+
+       ],
+
+       "cpu": [
+
+         "wasm32"
+
+       ],
+
+       "dev": true,
+
+       "license": "MIT",
+
+       "optional": true,
+
+       "dependencies": {
+
+         "@emnapi/core": "^1.6.0",
+
+         "@emnapi/runtime": "^1.6.0",
+
+         "@emnapi/wasi-threads": "^1.1.0",
+
+         "@napi-rs/wasm-runtime": "^1.0.7",
+
+         "@tybys/wasm-util": "^0.10.1",
+
+         "tslib": "^2.4.0"
+
+       },
+
+       "engines": {
+
+         "node": ">=14.0.0"
+
+       }
+
+     },
+
+     "node_modules/@tailwindcss/oxide-win32-arm64-msvc": {
+
+       "version": "4.1.17",
+
+       "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
win32-arm64-msvc/-/oxide-win32-arm64-msvc-4.1.17.tgz",
+
+           "integrity":      "sha512-
JU5AHr7gKbZlOGvMdb4722/0aYbU+tN6lv1k0Nx0JK2cGsh7g148zVWLM0IKR3NeKLv+
L90chBVYcJ8uJWbC9A==",
+
+       "cpu": [
+
+         "arm64"

```

```

+   ],
+   "dev": true,
+   "license": "MIT",
+   "optional": true,
+   "os": [
+     "win32"
+   ],
+   "engines": {
+     "node": ">= 10"
+   }
+ },
+ "node_modules/@tailwindcss/oxide-win32-x64-msvc": {
+   "version": "4.1.17",
+   "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
win32-x64-msvc/-/oxide-win32-x64-msvc-4.1.17.tgz",
+   "integrity": "sha512-
SKWM4waLuqx0IH+FMDUw6R66Hu40uTALFgnleKbqhgGU30DY20NORZMZUKgLrjQXNN2T
LzKvh48QXTig4h4bGw==",
+   "cpu": [
+     "x64"
+   ],
+   "dev": true,
+   "license": "MIT",
+   "optional": true,
+   "os": [
+     "win32"
+   ],
+   "engines": {
+     "node": ">= 10"
+   }
+ },
+ "node_modules/@tailwindcss/postcss": {
+   "version": "4.1.17",
+   "resolved": "https://registry.npmjs.org/@tailwindcss/postcss/-/
postcss-4.1.17.tgz",
+   "integrity": "sha512-
+nKl9N9mN5uJ+M7dBOOCzINw94MPstNR/GtIhz1fpZysxL/4a+N064jCBD6CPN+bIHWF
x3Kwuu8XJRrj/572Dw==",

```

```

+
    "dev": true,
+
    "license": "MIT",
+
    "dependencies": {
        "@alloc/quick-lru": "^5.2.0",
+
        "@tailwindcss/node": "4.1.17",
+
        "@tailwindcss/oxide": "4.1.17",
+
        "postcss": "^8.4.41",
+
        "tailwindcss": "4.1.17"
    }
+
},
"node_modules/@tanstack/query-core": {
    "version": "5.62.7",
    "resolved": "https://registry.npmjs.org/@tanstack/query-core/-/query-core-5.62.7.tgz",
@@ -1777,18 +2036,6 @@
        "url": "https://github.com/sponsors/epoberezkin"
    }
},
-
"node_modules/ansi-regex": {
-
    "version": "6.1.0",
-
        "resolved": "https://registry.npmjs.org/ansi-regex/-/ansi-regex-6.1.0.tgz",
-
            "integrity": "sha512-7HSX4QQb4CspciLpVFwyRe7903xsIZDDLER21kERQ71oaPodF8jL725AgJMFAYbooIqo1JoRLuM81SpeUkpkvA==",
-
        "dev": true,
-
        "engines": {
-
            "node": ">=12"
-
        },
-
        "funding": {
-
            "url": "https://github.com/chalk/ansi-regex?sponsor=1"
-
        }
-
},
"node_modules/ansi-styles": {
    "version": "4.3.0",
    "resolved": "https://registry.npmjs.org/ansi-styles/-/ansi-styles-4.3.0.tgz",
@@ -1804,31 +2051,6 @@

```

```

        "url": "https://github.com/chalk/ansi-styles?sponsor=1"
    }
},
{
  "node_modules/any-promise": {
    "version": "1.3.0",
    "resolved": "https://registry.npmjs.org/any-promise/-/any-promise-1.3.0.tgz",
    "integrity": "sha512-7UvmKalWRt1wgjL1RrGxoSJW/0QZFIegpeGvZG9kjP8vrRu55XTHbwnqq2GpXm9uLbcuhxm3IqX90B4MZR1b2A==",
    "dev": true
  },
  "node_modules/anymatch": {
    "version": "3.1.3",
    "resolved": "https://registry.npmjs.org/anymatch/-/anymatch-3.1.3.tgz",
    "integrity": "sha512-KMReFUr0B4t+D+OBkjR3KYqvocp2XaSz055UcB6mgQMd3KbcE+mWTyvVV7D/zsdEbNnV6acZUutkiHQXvTr1Rw==",
    "dev": true,
    "dependencies": {
      "normalize-path": "^3.0.0",
      "picomatch": "^2.0.4"
    },
    "engines": {
      "node": ">= 8"
    }
  },
  "node_modules/arg": {
    "version": "5.0.2",
    "resolved": "https://registry.npmjs.org/arg/-/arg-5.0.2.tgz",
    "integrity": "sha512-PYjyFOLKQ9y57JvQ6QLo8dAgNqswh8M1RMJYdQduT6xbWSgK36P/Z/v+p888pM69jMMfS8Xd8F6I1kQ/I9HUGg==",
    "dev": true
  },
  "node_modules/argparse": {
    "version": "2.0.1",

```

```

    "resolved": "https://registry.npmjs.org/argparse/-/argparse-2.0.1.tgz",
@@ -1896,18 +2118,6 @@
      "integrity": "sha512-3oSeU00TMV67hN1AmbXsK4yaqU7tjiHlbxRDZOpH0Kw9+CeX4bRAaX0Anxt0tx2MrpRpWwQaPwIlISEJhYU5Pw==",
      "dev": true
    },
-  "node_modules/binary-extensions": {
-    "version": "2.3.0",
-    "resolved": "https://registry.npmjs.org/binary-extensions/-/binary-extensions-2.3.0.tgz",
-    "integrity": "sha512-Ceh+7ox5qe7LJuLHoY0feh3pHuUDHAcRUeyL2VYghZwfpkNIy/+80cg0a3UuSoYzavmylwuLWQ0f3hl0jjMMIw==",
-    "dev": true,
-    "engines": {
-      "node": ">=8"
-    },
-    "funding": {
-      "url": "https://github.com/sponsors/sindresorhus"
-    }
-  },
-  "node_modules/brace-expansion": {
-    "version": "1.1.12",
-    "resolved": "https://registry.npmjs.org/brace-expansion/-/brace-expansion-1.1.12.tgz",
@@ -1986,15 +2196,6 @@
      "node": ">=6"
    }
  },
-  "node_modules/camelcase-css": {
-    "version": "2.0.1",
-    "resolved": "https://registry.npmjs.org/camelcase-css/-/camelcase-css-2.0.1.tgz",
-    "integrity": "sha512-Q0SvevhsljgYwRx6Rv7zKdMF8lbRmx+uQGx2+vDc+KI/eBnsy9kit5aj23AgGu3pa4t9AgwbnXWqS+i0Y+2aA==",
-    "dev": true,

```

```

-
  "engines": {
    "node": ">= 6"
  }
},
"node_modules/caniuse-lite": {
  "version": "1.0.30001754",
  "resolved": "https://registry.npmjs.org/caniuse-lite/-/caniuse-lite-1.0.30001754.tgz",
@@ -2031,42 +2232,6 @@
  "url": "https://github.com/chalk/chalk?sponsor=1"
}
},
"node_modules/chokidar": {
  "version": "3.6.0",
  "resolved": "https://registry.npmjs.org/chokidar/-/chokidar-3.6.0.tgz",
  "integrity": "sha512-7VT13fmjotKpGipCW9JEQAusEPE+Ei8nl6/g4FBAmIm0GOOLMua9NDDo/DWp0ZAxCr3cPq5ZpBqmPAQgDda2Pw==",
  "dev": true,
  "dependencies": {
    "anymatch": "~3.1.2",
    "braces": "~3.0.2",
    "glob-parent": "~5.1.2",
    "is-binary-path": "~2.1.0",
    "is-glob": "~4.0.1",
    "normalize-path": "~3.0.0",
    "readdirp": "~3.6.0"
  },
  "engines": {
    "node": ">= 8.10.0"
  },
  "funding": {
    "url": "https://paulmillr.com/funding/"
  },
  "optionalDependencies": {
    "fsevents": "~2.3.2"
  }
}

```

```

-   },
-   "node_modules/chokidar/node_modules/glob-parent": {
-     "version": "5.1.2",
-     "resolved": "https://registry.npmjs.org/glob-parent/-/glob-parent-5.1.2.tgz",
-     "integrity": "sha512-AOlgSQCePiJYwP3ARnGx+5VnTu2HBYdzbGP45eLw1vr3zB3vZLeyed1sC9hnbc0c9/SrMyM5RPQrkGz4aS9Zow==",
-     "dev": true,
-     "dependencies": {
-       "is-glob": "^4.0.1"
-     },
-     "engines": {
-       "node": ">= 6"
-     }
-   },
-   "node_modules/color-convert": {
-     "version": "2.0.1",
-     "resolved": "https://registry.npmjs.org/color-convert/-/color-convert-2.0.1.tgz",
-     "@@ -2097,15 +2262,6 @@"
-       "node": ">= 0.8"
-     }
-   },
-   "node_modules/commander": {
-     "version": "4.1.1",
-     "resolved": "https://registry.npmjs.org/commander/-/commander-4.1.1.tgz",
-     "integrity": "sha512-NOKm8xhkzAjzFx8B2v50AHT+u5pRQc2UCa2Vq9jYL/31o2wi9mxBA7LIFs3sV5VSC49z6pEhfbMULvShKj26WA==",
-     "dev": true,
-     "engines": {
-       "node": ">= 6"
-     }
-   },
-   "node_modules/concat-map": {
-     "version": "0.0.1",

```

```

    "resolved": "https://registry.npmjs.org(concat-map/-/concat-
map-0.0.1.tgz",
@@ -2142,18 +2298,6 @@
    "node": ">= 8"
}
},
-
"node_modules/cssesc": {
-
    "version": "3.0.0",
-
        "resolved": "https://registry.npmjs.org/cssesc/-/cssesc-
3.0.0.tgz",
-
            "integrity": "sha512-
/Tb/JcjK111nNScGob5MNtsntNM1aCNUDipB/TkwZFhyDrrE47S0x/18wF2bbjgc3ZzC
SKW1T5nt5EbFoAz/Vg==",
-
    "dev": true,
-
    "bin": {
-
        "cssesc": "bin/cssesc"
},
-
    "engines": {
-
        "node": ">=4"
}
-
},
-
"node_modules/csstype": {
-
    "version": "3.1.3",
-
        "resolved": "https://registry.npmjs.org/csstype/-/csstype-
3.1.3.tgz",
@@ -2192,17 +2336,15 @@
    "node": ">=0.4.0"
}
},
-
"node_modules/didyoumean": {
-
    "version": "1.2.2",
-
        "resolved": "https://registry.npmjs.org/didyoumean/-/
/didyoumean-1.2.2.tgz",
-
            "integrity": "sha512-
gxtyfqMg7GKyhQmb056K7M3xszy/mH8w+B4RT+QXBQsvA0dc3XymqDDPHx1BgPgsdAA
5SIifona89YtRATDzw==",
-
    "dev": true
}
},
-
"node_modules/dlv": {

```

```

-
  "version": "1.1.3",
-
  "resolved": "https://registry.npmjs.org/dlv/-/dlv-1.1.3.tgz",
-
  "integrity": "sha512-
+HlytyjlPKnIG8XuRG8WvmBP8xs8P71y+SKKS6ZXWoEgLuePxtDoUEiH7WkdePWrQ5JB
pE6aoVqfZfJUQkjXwA==",
-
  "dev": true
+
  "node_modules/detect-libc": {
+
    "version": "2.1.2",
+
    "resolved": "https://registry.npmjs.org/detect-libc/-/detect-
libc-2.1.2.tgz",
+
    "integrity": "sha512-
Btj2B00083o3WyH59e8MgXsxEQVcarkUOpEYrubB0urwnN10yQ364rsiByU11nZlqWYZ
m05i/of7io4mzihBtQ==",
+
    "dev": true,
+
    "license": "Apache-2.0",
+
    "engines": {
+
      "node": ">=8"
+
    }
  },
  "node_modules/dunder-proto": {
    "version": "1.0.1",
@@ -2218,23 +2360,25 @@
      "node": ">= 0.4"
    }
  },
-
  "node_modules/eastasianwidth": {
-
    "version": "0.2.0",
-
    "resolved": "https://registry.npmjs.org/eastasianwidth/-/
eastasianwidth-0.2.0.tgz",
-
    "integrity": "sha512-
I88TYZWc9XiYHRQ4/3c5rjjfgkjhLyW2luGIheGERbNQ60Y7yTybanSpDXZa8y7VUP9Y
mDcYa+eyq4ca7iLqWA==",
-
    "dev": true
-
  },
  "node_modules/electron-to-chromium": {
    "version": "1.5.73",
    "resolved": "https://registry.npmjs.org/electron-to-
chromium/-/electron-to-chromium-1.5.73.tgz",

```

```

    "integrity": "sha512-
8wGNxG9tAG5KhGd3eeA0o6ixhiNdgr0DcHWm85XPCphwZgD1lIEoi6t3VERayWao7SF7
AAZTw6oARGJeVjH8Kg==",
    "dev": true
  },
-  "node_modules/emoji-regex": {
-    "version": "9.2.2",
-    "resolved": "https://registry.npmjs.org/emoji-regex/-/emoji-
regex-9.2.2.tgz",
-    "integrity": "sha512-
L18DaJsXSUk2+42pv8mLs5jJT2hqFkFE4j21w0mgbUqsZ2hL72NsUU785g9RXgo3s0ZN
gVl42TiHp3zt0v/Vyg==",
-    "dev": true
+  "node_modules/enhanced-resolve": {
+    "version": "5.18.3",
+    "resolved": "https://registry.npmjs.org/enhanced-resolve/-/
/enhanced-resolve-5.18.3.tgz",
+    "integrity": "sha512-
d4lC8xfavMeBjzGr2vECC3fsGXziXZQyJxD868h2M/mBI3PwAu0DxAkLkq5HYuvrPYcU
tiLzsTo8U3PgX30cww==",
+    "dev": true,
+    "license": "MIT",
+    "dependencies": {
+      "graceful-fs": "^4.2.4",
+      "tapable": "^2.2.0"
+    },
+    "engines": {
+      "node": ">=10.13.0"
+    }
  },
  "node_modules/es-define-property": {
    "version": "1.0.1",
@@ -2425,6 +2569,22 @@
      "eslint": ">=8.40"
    }
  },
+  "node_modules/eslint-plugin-unused-imports": {
+    "version": "4.3.0",

```

```

+      "resolved": "https://registry.npmjs.org/eslint-plugin-unused-imports/-/eslint-plugin-unused-imports-4.3.0.tgz",
+                                         "integrity": "sha512-ZFBmXMGBYfHttdRtOG9nFFpmUvMtbHSjsKrS20vdWdbfiVYs03yA2SGYy9i9XmZJDfMG
BflZGBCm70SEnFQtOA==",
+      "dev": true,
+      "license": "MIT",
+      "peerDependencies": {
+        "@typescript-eslint/eslint-plugin": "^8.0.0-0 || ^7.0.0 ||
^6.0.0 || ^5.0.0",
+        "eslint": "^9.0.0 || ^8.0.0"
+      },
+      "peerDependenciesMeta": {
+        "@typescript-eslint/eslint-plugin": {
+          "optional": true
+        }
+      }
+    },
+    "node_modules/eslint-scope": {
+      "version": "8.4.0",
+      "resolved": "https://registry.npmjs.org/eslint-scope/-/eslint-scope-8.4.0.tgz",
+@@ -2651,22 +2811,6 @@
+      }
+    }
+  },
-  "node_modules/foreground-child": {
-    "version": "3.3.0",
-    "resolved": "https://registry.npmjs.org/foreground-child/-/foreground-child-3.3.0.tgz",
-                                         "integrity": "sha512-Ld2g8rrAyMYFXBhEqMz8ZAHBi4J4uS1i/CxGMDnjyFWddMXLVcDp051DZfu+t7+ab7Wv
6SMqpWmyFIj5UbffVg==",
-    "dev": true,
-    "dependencies": {
-      "cross-spawn": "^7.0.0",
-      "signal-exit": "^4.0.1"
-    },
-    "engines": {

```

```
-           "node": ">=14"
-
-       },
-
-       "funding": {
-
-           "url": "https://github.com/sponsors/isaacs"
-
-       }
-
-   },
-
-   "node_modules/form-data": {
-
-       "version": "4.0.4",
-
-       "resolved":      "https://registry.npmjs.org/form-data/-/form-
data-4.0.4.tgz",
-
-@@ -2768,26 +2912,6 @@
-
-           "node": ">= 0.4"
-
-       }
-
-   },
-
-   "node_modules/glob": {
-
-       "version": "10.4.5",
-
-       "resolved":      "https://registry.npmjs.org/glob/-/glob-
10.4.5.tgz",
-
-       "integrity":      "sha512-
7Bv8RF0k6xjo7d4A/PxYLbUCfb6c+Vpd2/mB2yRDlew7Jb5hEXiCD9ibf07wpk8i4sev
K6DFny9h7EYbM3/sHg==",
-
-       "dev": true,
-
-       "dependencies": {
-
-           "foreground-child": "^3.1.0",
-
-           "jackspeak": "^3.1.2",
-
-           "minimatch": "^9.0.4",
-
-           "minipass": "^7.1.2",
-
-           "package-json-from-dist": "^1.0.0",
-
-           "path-scurry": "^1.11.1"
-
-       },
-
-       "bin": {
-
-           "glob": "dist/esm/bin.mjs"
-
-       },
-
-       "funding": {
-
-           "url": "https://github.com/sponsors/isaacs"
-
-       }
-
-   },
-
-   "node_modules/glob-parent": {
```

```

        "version": "6.0.2",
        "resolved": "https://registry.npmjs.org/glob-parent/-/glob-
parent-6.0.2.tgz",
@@ -2800,31 +2924,6 @@
          "node": ">=10.13.0"
        }
      },
-    "node_modules/glob/node_modules/brace-expansion": {
-      "version": "2.0.2",
-      "resolved": "https://registry.npmjs.org/brace-expansion/-/
brace-expansion-2.0.2.tgz",
-      "integrity": "sha512-
Jt0vHyM+jmUBqojB7E1NIYadt0vI0Qxjxd2TERw94wDz+E2LAm5vKMXwg6ZZBTHPuUl
DgQHKXvjGBdfcF1ZDQ==",
-      "dev": true,
-      "license": "MIT",
-      "dependencies": {
-        "balanced-match": "^1.0.0"
-      }
-    },
-    "node_modules/glob/node_modules/minimatch": {
-      "version": "9.0.5",
-      "resolved": "https://registry.npmjs.org/minimatch/-/minimatch-
9.0.5.tgz",
-      "integrity": "sha512-
G6T0ZX48xgozx7587koeX9Ys2NYy6Gmv//P89sEte9V9whIapMNF4idKxnW2QtCcLiTW
lb/wfCabAtAFWhhBow==",
-      "dev": true,
-      "dependencies": {
-        "brace-expansion": "^2.0.1"
-      },
-      "engines": {
-        "node": ">=16 || 14 >=14.17"
-      },
-      "funding": {
-        "url": "https://github.com/sponsors/isaacs"
-      }
-    },

```

```

"node_modules/globals": {
  "version": "15.13.0",
  "resolved": "https://registry.npmjs.org/globals/-/globals-15.13.0.tgz",
@@ -2849,6 +2948,13 @@
    "url": "https://github.com/sponsors/ljharb"
  }
},
+ "node_modules/graceful-fs": {
+   "version": "4.2.11",
+   "resolved": "https://registry.npmjs.org/graceful-fs/-/graceful-fs-4.2.11.tgz",
+   "integrity": "sha512-RbJ5/jmFcNNCcDV5o9eTnBLJ/HszWV0P73bc+Ff4nS/rJj+YaS6IGyiOL0VoBYX+l1WrL3k63h/KrH+nhJ0XvQ==",
+   "dev": true,
+   "license": "ISC"
+ },
"node_modules/graphemer": {
  "version": "1.4.0",
  "resolved": "https://registry.npmjs.org/graphemer/-/graphemer-1.4.0.tgz",
@@ -2937,33 +3043,6 @@
  "node": ">=0.8.19"
}
},
- "node_modules/is-binary-path": {
-   "version": "2.1.0",
-   "resolved": "https://registry.npmjs.org/is-binary-path/-/is-binary-path-2.1.0.tgz",
-   "integrity": "sha512-ZMERYes6pDydyuGidse70sHxtbI7WVeUEozgR/g7rd0xUimYNlvZRE/K2MgZTjWy725IfelLeVcEM97mmtRGXw==",
-   "dev": true,
-   "dependencies": {
-     "binary-extensions": "^2.0.0"
-   },
-   "engines": {
-     "node": ">=8"
-
```

```

-      }
-
-    },
-
-    "node_modules/is-core-module": {
-
-      "version": "2.16.0",
-
-      "resolved": "https://registry.npmjs.org/is-core-module/-/is-
core-module-2.16.0.tgz",
-
-      "integrity": "sha512-
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80KDboXa0vFJ+BDH+g==",
-
-      "dev": true,
-
-      "dependencies": {
-
-        "hasown": "^2.0.2"
-
-      },
-
-      "engines": {
-
-        "node": ">= 0.4"
-
-      },
-
-      "funding": {
-
-        "url": "https://github.com/sponsors/ljharb"
-
-      }
-
-    },
-
-    "node_modules/is-extglob": {
-
-      "version": "2.1.1",
-
-      "resolved": "https://registry.npmjs.org/is-extglob/-/is-
extglob-2.1.1.tgz",
-
-      "@@ -2973,15 +3052,6 @@"
-
-        "node": ">=0.10.0"
-
-      }
-
-    },
-
-    "node_modules/is-fullwidth-code-point": {
-
-      "version": "3.0.0",
-
-      "resolved": "https://registry.npmjs.org/is-fullwidth-code-
point/-/is-fullwidth-code-point-3.0.0.tgz",
-
-      "integrity": "sha512-
zymm5+u+sCsSWyD9qNaejV3DFvhCKclKdizYaJUuHA83RLjb7nSuGnddCHGv0hk+KY7B
MAlsWeK4Ueg6EV6XQg==",
-
-      "dev": true,
-
-      "engines": {
-
-        "node": ">=8"
-
```

```

-      }
-
-    },
-
-    "node_modules/is-glob": {
-
-      "version": "4.0.3",
-
-      "resolved": "https://registry.npmjs.org/is-glob/-/is-glob-4.0.3.tgz",
-
-      "@@ -3009,28 +3079,14 @@"
-
-        "integrity": "sha512-RHxMLp9lnKHGHRng9QFhRCMbYAcVpn69smSGcq3f36xjgVvWThj4qqLbTLLq7Ssj8B+fI01EuCEGI2lKsyQeIw==",
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-        "dev": true
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-      },
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-      "node_modules/jackspeak": {
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-        "version": "3.4.3",
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-        "resolved": "https://registry.npmjs.org/jackspeak/-/jackspeak-3.4.3.tgz",
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-        "integrity": "sha512-OGlZQpz2yfahA/Rd1Y8Cd9SIEsqvXkLVoS/w/cgwhnhFMDbsQFeZYoJJ7bIZBS9BcamUW96asq/npPWugM+RQBw==",
-
-        "dev": true,
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-        "dependencies": {
-
-          "@isaacs/cliui": "^8.0.2"
-
-        },
-
-        "funding": {
-
-          "url": "https://github.com/sponsors/isaacs"
-
-        },
-
-        "optionalDependencies": {
-
-          "@pkgjs/parseargs": "^0.11.0"
-
-        }
-
-      },
-
-      "node_modules/jiti": {
-
-        "version": "1.21.6",
-
-        "resolved": "https://registry.npmjs.org/jiti/-/jiti-1.21.6.tgz",
-
-        "integrity": "sha512-2yTgeWTWzMWkHu6Jp9NKgePDAyHbntiwwYuuJLbbN9vl7DC9DvXK0B2BC3ZZ92D3cvV/aflH0osDfwpHepQ53w==",
-
-        "version": "2.6.1",
-
-        "resolved": "https://registry.npmjs.org/jiti/-/jiti-2.6.1.tgz",
-
```

```

+
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"dev": true,
+
"license": "MIT",
"bin": {
-
"jiti": "bin/jiti.js"
+
"jiti": "lib/jiti-cli.mjs"
}
},
"node_modules/js-tokens": {
@@ -3039,9 +3095,9 @@
"integrity": "sha512-
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},
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-
"resolved": "https://registry.npmjs.org/js-yaml/-/js-yaml-
4.1.0.tgz",
-
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wpxZs9NoxZaJESJGIZTyDEaYpl0FKSA+FB9aJiyemKhMwkxQg63h4T1KJgUGHpTqPDNR
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+
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+
"resolved": "https://registry.npmjs.org/js-yaml/-/js-yaml-
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+
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/55JZ0rmy3myCT5lsA==",
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"license": "MIT",
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@@ -3116,106 +3172,359 @@
"node": ">= 0.8.0"
}
},
-
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-
"version": "3.1.3",
-
"resolved": "https://registry.npmjs.org/lilconfig/-/lilconfig-
3.1.3.tgz",

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-
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+
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+
    "version": "1.30.2",
+
      "resolved": "https://registry.npmjs.org/lightningcss/-/
/lightningcss-1.30.2.tgz",
+
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+
        "dev": true,
+
        "license": "MPL-2.0",
+
        "dependencies": {
+
          "detect-libc": "^2.0.3"
+
        },
+
        "engines": {
+
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+
        },
+
        "funding": {
+
          "type": "opencollective",
+
          "url": "https://opencollective.com/parcel"
+
        },
+
        "optionalDependencies": {
+
          "lightningcss-android-arm64": "1.30.2",
+
          "lightningcss-darwin-arm64": "1.30.2",
+
          "lightningcss-darwin-x64": "1.30.2",
+
          "lightningcss-freebsd-x64": "1.30.2",
+
          "lightningcss-linux-arm-gnueabihf": "1.30.2",
+
          "lightningcss-linux-arm64-gnu": "1.30.2",
+
          "lightningcss-linux-arm64-musl": "1.30.2",
+
          "lightningcss-linux-x64-gnu": "1.30.2",
+
          "lightningcss-linux-x64-musl": "1.30.2",
+
          "lightningcss-win32-arm64-msvc": "1.30.2",
+
          "lightningcss-win32-x64-msvc": "1.30.2"
+
        }
+
      },
+
      "node_modules/lightningcss-android-arm64": {
+
        "version": "1.30.2",

```

```

+      "resolved": "https://registry.npmjs.org/lightningcss-android-
arm64/-/lightningcss-android-arm64-1.30.2.tgz",
+                                         "integrity": "sha512-
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YDZ6ykBZQnjTbmo4+A==",
+      "cpu": [
+        "arm64"
+      ],
+      "dev": true,
+      "license": "MPL-2.0",
+      "optional": true,
+      "os": [
+        "android"
+      ],
+      "engines": {
-        "node": ">=14"
+        "node": ">= 12.0.0"
      },
+      "funding": {
-        "url": "https://github.com/sponsors/antonk52"
+        "type": "opencollective",
+        "url": "https://opencollective.com/parcel"
      }
    },
-      "node_modules/lines-and-columns": {
-        "version": "1.2.4",
-        "resolved": "https://registry.npmjs.org/lines-and-columns/-/
lines-and-columns-1.2.4.tgz",
-                                         "integrity": "sha512-
7ylleysZQ/PV29jhEDl3UFjo6ZX7gCqJr5F7PKrqc93v7fzSynt1BpwEU8nAUXs8qzzv
qhbjhK5QZg6Mt/HkBg==",
-        "dev": true
-      },
-      "node_modules/locate-path": {
-        "version": "6.0.0",
-        "resolved": "https://registry.npmjs.org/locate-path/-/locate-
path-6.0.0.tgz",

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-
"integrity": "sha512-
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3KtnVHxTn2NHBSDVUw==",
+
"node_modules/lightningcss-darwin-arm64": {
+
"version": "1.30.2",
+
"resolved": "https://registry.npmjs.org/lightningcss-darwin-
arm64/-/lightningcss-darwin-arm64-1.30.2.tgz",
+
"integrity": "sha512-
ylTcDJBN3Hp21TdhRT5zBOII73P6/W0qwvlFEk22fkdxchtNTOU4Qc37SkzV+EKYxLou
Z6M4LG9NfZ1qkhkBWA==",
+
"cpu": [
+
"arm64"
],
+
"dev": true,
-
"dependencies": {
-
"p-locate": "^5.0.0"
},
+
"license": "MPL-2.0",
+
"optional": true,
+
"os": [
+
"darwin"
],
+
"engines": {
-
"node": ">=10"
+
"node": ">= 12.0.0"
},
+
"funding": {
-
"url": "https://github.com/sponsors/sindresorhus"
+
"type": "opencollective",
+
"url": "https://opencollective.com/parcel"
}
},
-
"node_modules/lodash.merge": {
-
"version": "4.6.2",
-
"resolved": "https://registry.npmjs.org/lodash.merge/-/
lodash.merge-4.6.2.tgz",
-
"integrity": "sha512-
0KpjXRVvrYyCsX1swR/XTK0va6VQkQM6MNo7PqW77ByjAhoARA8EfrP1N4+k1kj8YS0
ZUCtRT/YUuhYDujIQ==",

```

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-      "dev": true
-
-    },
-
-    "node_modules/loose-envify": {
-
-      "version": "1.4.0",
-
-      "resolved": "https://registry.npmjs.org/loose-envify/-/loose-
envify-1.4.0.tgz",
-
-          "integrity": "sha512-
lyuxPGr/Wfhrlem2CL/UcnUc1zcqKAImBDzukY7Y5F/yQiNdko6+fRLevlw1HgMySw7f
611UIY408EtxRSok3Q==",
-
-      "dependencies": {
-
-        "js-tokens": "^3.0.0 || ^4.0.0"
-
+    "node_modules/lightningcss-darwin-x64": {
+
+      "version": "1.30.2",
+
+      "resolved": "https://registry.npmjs.org/lightningcss-darwin-
x64/-/lightningcss-darwin-x64-1.30.2.tgz",
+
+          "integrity": "sha512-
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3UmSjBM6nXWM2TfZTQ==",
+
+      "cpu": [
+
+        "x64"
+
+      ],
+
+      "dev": true,
+
+      "license": "MPL-2.0",
+
+      "optional": true,
+
+      "os": [
+
+        "darwin"
+
+      ],
+
+      "engines": {
+
+        "node": ">= 12.0.0"
+
+      },
-
-      "bin": {
-
-        "loose-envify": "cli.js"
-
+      "funding": {
+
+        "type": "opencollective",
+
+        "url": "https://opencollective.com/parcel"
+
+      }
-
},

-
-    "node_modules/lru-cache": {

```

```

-      "version": "5.1.1",
-      "resolved": "https://registry.npmjs.org/lru-cache/-/lru-cache-
5.1.1.tgz",
-          "integrity": "sha512-
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2n6gI8vN1aesBFgo9w==",
+      "node_modules/lightningcss-freebsd-x64": {
+          "version": "1.30.2",
+          "resolved": "https://registry.npmjs.org/lightningcss-freebsd-
x64/-/lightningcss-freebsd-x64-1.30.2.tgz",
+              "integrity": "sha512-
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bhSbkQaWhEoMGmGslA==",
+          "cpu": [
+              "x64"
+          ],
+          "dev": true,
-          "dependencies": {
-              "yallist": "^3.0.2"
+          "license": "MPL-2.0",
+          "optional": true,
+          "os": [
+              "freebsd"
+          ],
+          "engines": {
+              "node": ">= 12.0.0"
+          },
+          "funding": {
+              "type": "opencollective",
+              "url": "https://opencollective.com/parcel"
+          }
+      },
-          "node_modules/math-intrinsics": {
-              "version": "1.1.0",
-              "resolved": "https://registry.npmjs.org/math-intrinsics/-/math-
intrinsics-1.1.0.tgz",
-                  "integrity": "sha512-
/IxtbwEk5HTPyEwyKX6hGkYXxM9nbj64B+ilVJnC/R6B0pH5G4V3b0pVbL7DBj4tkhBA
ppbQUlf6F6Xl9LHu1g==",

```

```

-      "license": "MIT",
+  "node_modules/lightningcss-linux-arm-gnueabihf": {
+    "version": "1.30.2",
+    "resolved": "https://registry.npmjs.org/lightningcss-linux-
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+    "integrity": "sha512-
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wOxNWhndd8z0E374hiA==",
+    "cpu": [
+      "arm"
+    ],
+    "dev": true,
+    "license": "MPL-2.0",
+    "optional": true,
+    "os": [
+      "linux"
+    ],
+    "engines": {
-      "node": ">= 0.4"
+      "node": ">= 12.0.0"
+    },
+    "funding": {
+      "type": "opencollective",
+      "url": "https://opencollective.com/parcel"
+    }
},
-  "node_modules/merge2": {
-    "version": "1.4.1",
-    "resolved": "https://registry.npmjs.org/merge2/-/merge2-
1.4.1.tgz",
-    "integrity": "sha512-
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CCDgv+P2P5y00ZJ00g==",
+  "node_modules/lightningcss-linux-arm64-gnu": {
+    "version": "1.30.2",
+    "resolved": "https://registry.npmjs.org/lightningcss-linux-
arm64-gnu/-/lightningcss-linux-arm64-gnu-1.30.2.tgz",

```

```

+
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g89ktszWbaQnxD/e3A==",
+
"cpu": [
+
    "arm64"
],
+
"dev": true,
+
"license": "MPL-2.0",
+
"optional": true,
+
"os": [
+
    "linux"
],
+
"engines": {
-
    "node": ">= 8"
+
    "node": ">= 12.0.0"
},
+
"funding": {
+
    "type": "opencollective",
+
    "url": "https://opencollective.com/parcel"
}
},
-
"node_modules/micromatch": {
-
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-
        "resolved": "https://registry.npmjs.org/micromatch/-/
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-
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PzEJQxsYsEiFCKo2BA==",
+
    "node_modules/lightningcss-linux-arm64-musl": {
+
        "version": "1.30.2",
+
            "resolved": "https://registry.npmjs.org/lightningcss-linux-
arm64-musl/-/lightningcss-linux-arm64-musl-1.30.2.tgz",
+
                "integrity": "sha512-
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5isLgWzMst+eD1YzrnA==",
+
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+
            "arm64"
],
+
"dev": true,

```

```

-
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    "picomatch": "^2.3.1"
  },
+
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+
  "optional": true,
+
  "os": [
    "linux"
  ],
+
  "engines": {
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+
    "node": ">= 12.0.0"
  },
+
  "funding": {
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+
    "url": "https://opencollective.com/parcel"
  }
},
-
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-
    "resolved": "https://registry.npmjs.org/mime-db/-/mime-db-1.52.0.tgz",
-
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-
      "license": "MIT",
+
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+
      "resolved": "https://registry.npmjs.org/lightningcss-linux-x64-gnu/-/lightningcss-linux-x64-gnu-1.30.2.tgz",
-
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+
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        ],
+
        "dev": true,
+
        "license": "MPL-2.0",

```

```

+
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+
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-
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+
    "node": ">= 12.0.0"
  },
  "funding": {
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+
    "url": "https://opencollective.com/parcel"
  }
},
-
  "node_modules/mime-types": {
+
  "node_modules/lightningcss-linux-x64-musl": {
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+
      "resolved": "https://registry.npmjs.org/lightningcss-linux-
x64-musl/-/lightningcss-linux-x64-musl-1.30.2.tgz",
+
      "integrity": "sha512-
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ewbDjnumefsLsP6aiA==",
+
    "cpu": [
      "x64"
    ],
    "dev": true,
    "license": "MPL-2.0",
    "optional": true,
+
    "os": [
      "linux"
    ],
    "engines": {
      "node": ">= 12.0.0"
    },
    "funding": {
      "type": "opencollective",
+
      "url": "https://opencollective.com/parcel"
    }
  }
}

```

```

+ },
+ "node_modules/lightningcss-win32-arm64-msvc": {
+   "version": "1.30.2",
+   "resolved": "https://registry.npmjs.org/lightningcss-win32-
arm64-msvc/-/lightningcss-win32-arm64-msvc-1.30.2.tgz",
+   "integrity": "sha512-
FZn+vaj7zLv//D/192WFFVA0RgHawIcHqLX9xuWiQt7P0PtdFEVaxgF9rjM/IRYHQXNn
k61/H/gb2Ei+kUQ4xQ==",
+   "cpu": [
+     "arm64"
+   ],
+   "dev": true,
+   "license": "MPL-2.0",
+   "optional": true,
+   "os": [
+     "win32"
+   ],
+   "engines": {
+     "node": ">= 12.0.0"
+   },
+   "funding": {
+     "type": "opencollective",
+     "url": "https://opencollective.com/parcel"
+   }
+ },
+ "node_modules/lightningcss-win32-x64-msvc": {
+   "version": "1.30.2",
+   "resolved": "https://registry.npmjs.org/lightningcss-win32-
x64-msvc/-/lightningcss-win32-x64-msvc-1.30.2.tgz",
+   "integrity": "sha512-
5g1yc73p+iAkid5phb4oVFMB45417DkRevRbt/EI/gKXJk4jid+vPFF/AXbxn05Aky8P
apwzzrdJShv5C0avjw==",
+   "cpu": [
+     "x64"
+   ],
+   "dev": true,
+   "license": "MPL-2.0",
+   "optional": true,

```

```

+     "os": [
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+     ],
+     "engines": {
+       "node": ">= 12.0.0"
+     },
+     "funding": {
+       "type": "opencollective",
+       "url": "https://opencollective.com/parcel"
+     }
+   },
+   "node_modules/locate-path": {
+     "version": "6.0.0",
+     "resolved": "https://registry.npmjs.org/locate-path/-/locate-path-6.0.0.tgz",
+     "integrity": "sha512-iPZK6eYjbxRu3uB4/WZ3EsEIMJFMqAoopl3R+zuq0UjcAm/M06KCweDgPfP3elTztokP3KtnVHxTn2NHBSDVUw==",
+     "dev": true,
+     "dependencies": {
+       "p-locate": "^5.0.0"
+     },
+     "engines": {
+       "node": ">=10"
+     },
+     "funding": {
+       "url": "https://github.com/sponsors/sindresorhus"
+     }
+   },
+   "node_modules/lodash.merge": {
+     "version": "4.6.2",
+     "resolved": "https://registry.npmjs.org/lodash.merge/-/lodash.merge-4.6.2.tgz",
+     "integrity": "sha512-0KpjXRVvrYyCsX1swR/XTK0va6VQkQM6MNo7PqW77ByjAhoARA8EfrP1N4+KlKj8YS0ZUCtRT/YUuhYDujIQ==",
+     "dev": true
+   },

```

```

+   "node_modules/loose-envify": {
+     "version": "1.4.0",
+     "resolved": "https://registry.npmjs.org/loose-envify/-/loose-
envify-1.4.0.tgz",
+                                         "integrity": "sha512-
lyuxPGr/Wfhrlem2CL/UcnUc1zcqKAImBDzukY7Y5F/yQiNdko6+fRLLevlw1HgMySw7f
611UIY408EtRSok3Q==",
+     "dependencies": {
+       "js-tokens": "^3.0.0 || ^4.0.0"
+     },
+     "bin": {
+       "loose-envify": "cli.js"
+     }
+   },
+   "node_modules/lru-cache": {
+     "version": "5.1.1",
+     "resolved": "https://registry.npmjs.org/lru-cache/-/lru-cache-
5.1.1.tgz",
+                                         "integrity": "sha512-
KpNARQA3Iwv+jTA0utUVVbrh+Jlrr1Fv0e56GGzAF0XN7dk/FviaDW8LHmK52DlcH4WP
2n6gI8vN1aesBFgo9w==",
+     "dev": true,
+     "dependencies": {
+       "yallist": "^3.0.2"
+     }
+   },
+   "node_modules/magic-string": {
+     "version": "0.30.21",
+     "resolved": "https://registry.npmjs.org/magic-string/-/magic-
string-0.30.21.tgz",
+                                         "integrity": "sha512-
vd2F4YUyEXKGcLHoq+TEyCjxueSeHnFxyyjNp80yg0XV4vUhnDer/lvvqlqM/arB5bXQN
5K2/3oinyCRyx8T2CQ==",
+     "dev": true,
+     "license": "MIT",
+     "dependencies": {
+       "@jridgewell/sourcemap-codec": "^1.5.5"
+     }
+   },

```

```

+   "node_modules/math-intrinsics": {
+     "version": "1.1.0",
+     "resolved": "https://registry.npmjs.org/math-intrinsics/-/math-
+intrinsics-1.1.0.tgz",
+     "integrity": "sha512-
/IXtbwEk5HTPyEwyKX6hGkYXxM9nbj64B+i1VJnC/R6B0pH5G4V3b0pVbL7DBj4tkhBA
ppbQULf6F6Xl9LHu1g==",
+     "license": "MIT",
+     "engines": {
+       "node": ">= 0.4"
+     }
+   },
+   "node_modules/merge2": {
+     "version": "1.4.1",
+     "resolved": "https://registry.npmjs.org/merge2/-/merge2-
1.4.1.tgz",
+     "integrity": "sha512-
8q7VEgMJW4J8tcfVPy8g09NcQwZdbwFEqhe/WZkoIzjn/3TGDwtOCYtXGxA308tPzpcz
CCDgv+P2P5y00ZJ00g==",
+     "dev": true,
+     "engines": {
+       "node": ">= 8"
+     }
+   },
+   "node_modules/micromatch": {
+     "version": "4.0.8",
+     "resolved": "https://registry.npmjs.org/micromatch/-/
micromatch-4.0.8.tgz",
+     "integrity": "sha512-
PXwfBhYu0hBCPw8Dn0E+WDYb7af3dSLVWKi3HGv84IdF4TyFoC0ysxFd0Goxw7nSv4T/
PzEJQxsYsEiFCKo2BA==",
+     "dev": true,
+     "dependencies": {
+       "braces": "^3.0.3",
+       "picomatch": "^2.3.1"
+     },
+     "engines": {
+       "node": ">=8.6"
+     }

```

```

+   },
+   "node_modules/mime-db": {
+     "version": "1.52.0",
+     "resolved": "https://registry.npmjs.org/mime-db/-/mime-db-1.52.0.tgz",
+     "integrity": "sha512-sPU4uV7dYlvtWJxwwxHDOPuihVNiE7TyAbQ5SWxDCB9mUYv0groQ0wYQQOKPJ8C1bE+1ETVl0oK1UC2nU3gYvg==",
+     "license": "MIT",
+     "engines": {
+       "node": ">= 0.6"
+     }
+   },
+   "node_modules/mime-types": {
+     "version": "2.1.35",
+     "resolved": "https://registry.npmjs.org/mime-types/-/mime-types-2.1.35.tgz",
+     "integrity": "sha512-ZDY+bPm5zTTF+YpCrAU9nK0UgICYPT0QtT1NZWFv4s++TNkcgVaT0g6+4R2uI4MjQjzySHB1zxuWL50hzaeXiw==",
+     "@@ -3240,32 +3549,12 @@
+       "node": "*"
+     }
+   },
-   "node_modules/minipass": {
-     "version": "7.1.2",
-     "resolved": "https://registry.npmjs.org/minipass/-/minipass-7.1.2.tgz",
-     "integrity": "sha512-q0OzS1cBTWYF4BH8fVePDB009iptMnGUEZwNc/cMWhnTV2nVLZ7VoNWEPHkYczZA0pdoA7dl6e7FL659nX9S2aw==",
-     "dev": true,
-     "engines": {
-       "node": ">=16 || 14 >=14.17"
-     }
-   },
-   "node_modules/ms": {
-     "version": "2.1.3",
-     "resolved": "https://registry.npmjs.org/ms/-/ms-2.1.3.tgz",

```

```

    "integrity": "sha512-
6FlzubTLZG3J2a/NVCAleEhjzq5oxgHyaCU9yYXvcLsvoVaHJq/s5xXI6/XXP6tz7R9xA0tHnSO/tXtF3WRTlA==",
    "dev": true
  },
  "node_modules/mz": {
    "version": "2.7.0",
    "resolved": "https://registry.npmjs.org/mz/-/mz-2.7.0.tgz",
    "integrity": "sha512-
z81GN07nnYMEhrGh9LeymoE4+Yr0Wn5McHIZMK5cfQCl+NDX08sCZgUc9/6MHni9IWuFLm1Z3HTCxu2z9fN62Q==",
    "dev": true,
    "dependencies": {
      "any-promise": "^1.0.0",
      "object-assign": "^4.0.1",
      "thenify-all": "^1.0.0"
    }
  },
  "node_modules/nanoid": {
    "version": "3.3.11",
    "resolved": "https://registry.npmjs.org/nanoid/-/nanoid-3.3.11.tgz",
    "@@ -3297,15 +3586,6 @@

      "integrity": "sha512-
xx0wJsBKtzAq7DY0J+DTzuz58k8e7sJbdgwkBMwQe8UYB6ekmsQ45q0M/tJDsGaZmbC+l7n57UV8Hl5tHx09uw==",
      "dev": true
    },
    "node_modules/normalize-path": {
      "version": "3.0.0",
      "resolved": "https://registry.npmjs.org/normalize-path/-/normalize-path-3.0.0.tgz",
      "integrity": "sha512-
6eZs5Ls3WtCisHWp9S2GUy8dqkpGi4BVSz3GaqiE6ezub0512ESztXUwUB6C6IKbQkY2Pnb/mD4WYojCRwcwLA==",
      "dev": true,
      "engines": {
        "node": ">=0.10.0"
      }
    }
  }
}

```

```

-   },
-     "node_modules/normalize-range": {
-       "version": "0.1.2",
-       "resolved": "https://registry.npmjs.org/normalize-range/-/normalize-range-0.1.2.tgz",
-       "@@ -3315,24 +3595,6 @@"
-         "node": ">=0.10.0"
-       }
-     },
-   "node_modules/object-assign": {
-     "version": "4.1.1",
-     "resolved": "https://registry.npmjs.org/object-assign/-/object-assign-4.1.1.tgz",
-     "integrity": "sha512-rJgTQnkUnH1sFw8yT6VSU3zD3sWmu6sZhIseY8VX+GRu3P6F7Fu+JNDoXfkElbLJSnc3FUQHVe4cU5hj+BcUg==",
-     "dev": true,
-     "engines": {
-       "node": ">=0.10.0"
-     }
-   },
-   "node_modules/object-hash": {
-     "version": "3.0.0",
-     "resolved": "https://registry.npmjs.org/object-hash/-/object-hash-3.0.0.tgz",
-     "integrity": "sha512-RSn9F68PjH9HqtLtsSnqYC1XXoWe9Bju5+213R98cNGttag9q9yA0TzdbsqvIa7aNm5WffBZFpWYr2aWrklWAw==",
-     "dev": true,
-     "engines": {
-       "node": ">= 6"
-     }
-   },
-   "node_modules/optionator": {
-     "version": "0.9.4",
-     "resolved": "https://registry.npmjs.org/optionator/-/optionator-0.9.4.tgz",
-     "@@ -3380,12 +3642,6 @@"
-       "url": "https://github.com/sponsors/sindresorhus"

```

```

        }
    },
-  "node_modules/package-json-from-dist": {
-    "version": "1.0.1",
-    "resolved": "https://registry.npmjs.org/package-json-from-
dist/-/package-json-from-dist-1.0.1.tgz",
-    "integrity": "sha512-
UEZIS3/by4OC8vL3P2dTXRETpebLI2NiI5vIrjaD/5UtrkFX/tNbwjTSRAGC/+7CAo2p
IcBaRgWmcBBHcsaCIw==",
-    "dev": true
-  },
  "node_modules/parent-module": {
    "version": "1.0.1",
    "resolved": "https://registry.npmjs.org/parent-module/-/
parent-module-1.0.1.tgz",
@@ -3417,34 +3673,6 @@
    "node": ">=8"
  }
},
-  "node_modules/path-parse": {
-    "version": "1.0.7",
-    "resolved": "https://registry.npmjs.org/path-parse/-/path-
parse-1.0.7.tgz",
-    "integrity": "sha512-
LDJzPVEEPR+y48z93A0Ed0yXb8pAByGwo/k5YYdYgpY2/2Es0sksJrq7l0HxryrV0n1
ejG6oAp8ahv0IQD8sw==",
-    "dev": true
-  },
-  "node_modules/path-scurry": {
-    "version": "1.11.1",
-    "resolved": "https://registry.npmjs.org/path-scurry/-/path-
scurry-1.11.1.tgz",
-    "integrity": "sha512-
Xa4Nw17FS9ApQFJ9umLiJS4orGjm7ZzwUrwamcGQuHSzDyth9boKDaycYdDcZDuqYATX
w4HFXgaqWTctW/v1HA==",
-    "dev": true,
-    "dependencies": {
-      "lru-cache": "^10.2.0",
-      "minipass": "^5.0.0 || ^6.0.2 || ^7.0.0"
-
```

```

-      },
-      "engines": {
-        "node": ">=16 || 14 >=14.18"
-      },
-      "funding": {
-        "url": "https://github.com/sponsors/isaacs"
-      }
-    },
-    "node_modules/path-scurry/node_modules/lru-cache": {
-      "version": "10.4.3",
-      "resolved": "https://registry.npmjs.org/lru-cache/-/lru-cache-10.4.3.tgz",
-      "integrity": "sha512-JNAzZcXrCt42VGLuYz0zfAzDfAvJWW6AfYlDBQyDV5DCli2m5sAmK+0I07s59XfsRsWHp02jAJrRadPRGTt6SQ==",
-      "dev": true
-    },
-    "node_modules/picocolors": {
-      "version": "1.1.1",
-      "resolved": "https://registry.npmjs.org/picocolors/-/picocolors-1.1.1.tgz",
-      "@@ -3463,24 +3691,6 @@"
-        "url": "https://github.com/sponsors/jonschlinkert"
-      }
-    },
-    "node_modules/pify": {
-      "version": "2.3.0",
-      "resolved": "https://registry.npmjs.org/pify/-/pify-2.3.0.tgz",
-      "integrity": "sha512-udgsAY+fTnvv7kI7aaxbqwWNb0AHiB0qB089PZKPkoTmG0gdbrHDKD+0B2X4uTfJ/FT1R09r9gTsJUjNJotuog==",
-      "dev": true,
-      "engines": {
-        "node": ">=0.10.0"
-      }
-    },
-    "node_modules/pirates": {
-      "version": "4.0.6",
-
```

```

-           "resolved": "https://registry.npmjs.org/pirates/-/pirates-
4.0.6.tgz",
-                                         "integrity": "sha512-
saLsH7WeYYPiD25LDuLRRY/i+6HaPYr6G10ULN39otzkSTxKnubR9RTxS3/Kk50s1g2J
TgFwWQDQyplC5/SHZg==",
-           "dev": true,
-           "engines": {
-             "node": ">= 6"
-           },
-         },
-         "node_modules/postcss": {
-           "version": "8.5.6",
-           "resolved": "https://registry.npmjs.org/postcss/-/postcss-
8.5.6.tgz",
-@@ -3510,115 +3720,6 @@
-             "node": "^10 || ^12 || >=14"
-           }
-         },
-         "node_modules/postcss-import": {
-           "version": "15.1.0",
-           "resolved": "https://registry.npmjs.org/postcss-import/-/
/postcss-import-15.1.0.tgz",
-                                         "integrity": "sha512-
hpr+J05B2FVYUAXHeK1YyI267J/dDDhMU6B6civm8hSY1jYJnBXxzDKDswzJmtLHryr
jhndjqqp/49t8FALew==",
-           "dev": true,
-           "dependencies": {
-             "postcss-value-parser": "^4.0.0",
-             "read-cache": "^1.0.0",
-             "resolve": "^1.1.7"
-           },
-           "engines": {
-             "node": ">=14.0.0"
-           },
-           "peerDependencies": {
-             "postcss": "^8.0.0"
-           }
-         },
-       },

```

```

-   "node_modules/postcss-js": {
-     "version": "4.0.1",
-     "resolved": "https://registry.npmjs.org/postcss-js/-/postcss-
-     js-4.0.1.tgz",
-     "integrity": "sha512-
dDLF8pE0191hJMtlHFPRa8xsizHaM82MLfNkUHdUtVEV3tgTp5oj+8qbEqYM57SLfc74
KSbw//4SeJma2LRVIw==",
-     "dev": true,
-     "dependencies": {
-       "camelcase-css": "^2.0.1"
-     },
-     "engines": {
-       "node": "^12 || ^14 || >= 16"
-     },
-     "funding": {
-       "type": "opencollective",
-       "url": "https://opencollective.com/postcss/"
-     },
-     "peerDependencies": {
-       "postcss": "^8.4.21"
-     }
-   },
-   "node_modules/postcss-load-config": {
-     "version": "4.0.2",
-     "resolved": "https://registry.npmjs.org/postcss-load-config/-/
-     /postcss-load-config-4.0.2.tgz",
-     "integrity": "sha512-
bSVhyJGL00wMVoPUzAVAnbEoWlyqRxkjv64tUl427SKnPrENTq6hJwUojroMz2VB+Q1ed
mi4IfraPPami5VVgMQ==",
-     "dev": true,
-     "funding": [
-       {
-         "type": "opencollective",
-         "url": "https://opencollective.com/postcss/"
-       },
-       {
-         "type": "github",
-         "url": "https://github.com/sponsors/ai"
-
```

```
-      }
-
-    ],
-
-    "dependencies": {
-
-      "lilconfig": "^3.0.0",
-
-      "yaml": "^2.3.4"
-
-    },
-
-    "engines": {
-
-      "node": ">= 14"
-
-    },
-
-    "peerDependencies": {
-
-      "postcss": ">=8.0.9",
-
-      "ts-node": ">=9.0.0"
-
-    },
-
-    "peerDependenciesMeta": {
-
-      "postcss": {
-
-        "optional": true
-
-      },
-
-      "ts-node": {
-
-        "optional": true
-
-      }
-
-    }
-
-  },
-
-  "node_modules/postcss-nested": {
-
-    "version": "6.2.0",
-
-    "resolved": "https://registry.npmjs.org/postcss-nested/-/postcss-nested-6.2.0.tgz",
-
-    "integrity": "sha512-HQbt28KulC5AJzG+cZtj9kvKB93CFCdLvog1WFLf1D+xmMvPGlBstkpTEZfK5+AN9hfJocyBFCNiqyS48bpgzQ==",
-
-    "dev": true,
-
-    "funding": [
-
-      {
-
-        "type": "opencollective",
-
-        "url": "https://opencollective.com/postcss/"
-
-      },
-
-      {
-
-        "type": "github",
-
```

```

-           "url": "https://github.com/sponsors/ai"
-
-       },
-
-   ],
-
-   "dependencies": {
-
-     "postcss-selector-parser": "^6.1.1"
-
-   },
-
-   "engines": {
-
-     "node": ">=12.0"
-
-   },
-
-   "peerDependencies": {
-
-     "postcss": "^8.2.14"
-
-   }
-
- },
-
- "node_modules/postcss-selector-parser": {
-
-   "version": "6.1.2",
-
-   "resolved": "https://registry.npmjs.org/postcss-selector-
parser/-/postcss-selector-parser-6.1.2.tgz",
-
-   "integrity": "sha512-
Q8qQfPiZ+THO/3Zr0r00cJJKfpYCagtMUkXbnEfmgUjwXg6z/WBe0yS9APBBPCTSiDV+
s4SwQGu8yFsiMRIudg==",
-
-   "dev": true,
-
-   "dependencies": {
-
-     "cssesc": "^3.0.0",
-
-     "util-deprecate": "^1.0.2"
-
-   },
-
-   "engines": {
-
-     "node": ">=4"
-
-   }
-
- },
-
- "node_modules/postcss-value-parser": {
-
-   "version": "4.2.0",
-
-   "resolved": "https://registry.npmjs.org/postcss-value-
parser/-/postcss-value-parser-4.2.0.tgz",
-
-@@ -3739,44 +3840,6 @@
-
-   "react-dom": ">=18"
-
- }
-
- },
-
- "node_modules/read-cache": {

```

```

-      "version": "1.0.0",
-      "resolved": "https://registry.npmjs.org/read-cache/-/read-
cache-1.0.0.tgz",
-          "integrity": "sha512-
Owdv/Ft7Ij0gm/i0xvNDZ1LrRANRfew4b2prF30WMQLxLfu3bS8FVhCsrSCMK4lR56Y9
ya+ATHoTpDCTxCmpRA==",
-      "dev": true,
-      "dependencies": {
-          "pify": "^2.3.0"
-      }
-  },
-  "node_modules/readdirp": {
-      "version": "3.6.0",
-      "resolved": "https://registry.npmjs.org/readdirp/-/readdirp-
3.6.0.tgz",
-          "integrity": "sha512-
h0S089on8RduqdbhvQ5Z37A0ESjsqz6qnRcffsMU3495FuTdqSm+7bhJ29JvIOsBDEEn
an5DPu9t3To9VRlMzA==",
-      "dev": true,
-      "dependencies": {
-          "picomatch": "^2.2.1"
-      },
-      "engines": {
-          "node": ">=8.10.0"
-      }
-  },
-  "node_modules/resolve": {
-      "version": "1.22.9",
-      "resolved": "https://registry.npmjs.org/resolve/-/resolve-
1.22.9.tgz",
-          "integrity": "sha512-
QxrmX1DzraFIi9PxdG5VkRfRwIgjwyud+z/iBwfRRrVmHc+P9Q7u2lSSpQ6bjr2gy5lr
qIIU9vb6iAeGf2400A==",
-      "dev": true,
-      "dependencies": {
-          "is-core-module": "^2.16.0",
-          "path-parse": "^1.0.7",
-          "supports-preserve-symlinks-flag": "^1.0.0"
-      }
-
```

```

-     "bin": {
-       "resolve": "bin/resolve"
-     },
-     "funding": {
-       "url": "https://github.com/sponsors/ljharb"
-     }
-   },
-   "node_modules/resolve-from": {
-     "version": "4.0.0",
-     "resolved": "https://registry.npmjs.org/resolve-from/-/resolve-from-4.0.0.tgz",
-     "@@ -3906,18 +3969,6 @@"
-       "node": ">=8"
-     }
-   },
-   "node_modules/signal-exit": {
-     "version": "4.1.0",
-     "resolved": "https://registry.npmjs.org/signal-exit/-/signal-exit-4.1.0.tgz",
-     "integrity": "sha512-bzyZ1e88w901iNJBKn0lvYTrWPDL4601bG0D3XInv+9tkPrxrN8jUUTiFlDkkmKwgn1M6CfIA13SuGqOa9Korw==",
-     "dev": true,
-     "engines": {
-       "node": ">=14"
-     },
-     "funding": {
-       "url": "https://github.com/sponsors/isaacs"
-     }
-   },
-   "node_modules/source-map-js": {
-     "version": "1.2.1",
-     "resolved": "https://registry.npmjs.org/source-map-js/-/source-map-js-1.2.1.tgz",
-     "@@ -3927,102 +3978,6 @@"
-       "node": ">=0.10.0"
-     }
-   },

```

```

-   "node_modules/string-width": {
-     "version": "5.1.2",
-     "resolved": "https://registry.npmjs.org/string-width/-/string-
width-5.1.2.tgz",
-       "integrity": "sha512-
HnLOCR3vjcY8beoNLtcjZ5/nxn2afmME6lhrDrebokqMap+XbeW8n9TXpPDOqdGK5qcI
3oT0GKTW6wC7EMiVqA==",
-     "dev": true,
-     "dependencies": {
-       "eastasianwidth": "^0.2.0",
-       "emoji-regex": "^9.2.2",
-       "strip-ansi": "^7.0.1"
-     },
-     "engines": {
-       "node": ">=12"
-     },
-     "funding": {
-       "url": "https://github.com/sponsors/sindresorhus"
-     }
-   },
-   "node_modules/string-width-cjs": {
-     "name": "string-width",
-     "version": "4.2.3",
-     "resolved": "https://registry.npmjs.org/string-width/-/string-
width-4.2.3.tgz",
-       "integrity": "sha512-
wKyQRQpjJ0sIp62ErSzdgSjMJwsap5oRNihHhu6G7JV0/9jIB6UyevL+tXu0qrng8j/c
xKTWyWUwvSTriiZz/g==",
-     "dev": true,
-     "dependencies": {
-       "emoji-regex": "^8.0.0",
-       "is-fullwidth-code-point": "^3.0.0",
-       "strip-ansi": "^6.0.1"
-     },
-     "engines": {
-       "node": ">=8"
-     }
-   },

```

```

-   "node_modules/string-width-cjs/node_modules/ansi-regex": {
-     "version": "5.0.1",
-     "resolved": "https://registry.npmjs.org/ansi-regex/-/ansi-regex-5.0.1.tgz",
-     "integrity": "sha512-quJQXlTSUGL2LH9SUXo8VwsY4soanhgo6LNSm84E1LBcE8s300wpdiRzyR9z/ZZJMLMWv37q00b9pdJlMUEKFQ==",
-     "dev": true,
-     "engines": {
-       "node": ">=8"
-     }
-   },
-   "node_modules/string-width-cjs/node_modules/emoji-regex": {
-     "version": "8.0.0",
-     "resolved": "https://registry.npmjs.org/emoji-regex/-/emoji-regex-8.0.0.tgz",
-     "integrity": "sha512-MSjYzcWNOA0ewAHpz0MxpYFvwg6yjy1NG3xteoqz644VCo/RPgnr1/GGt+ic3iJTzQ8Eu3TdM14SawnVUmGE6A==",
-     "dev": true
-   },
-   "node_modules/string-width-cjs/node_modules/strip-ansi": {
-     "version": "6.0.1",
-     "resolved": "https://registry.npmjs.org/strip-ansi/-/strip-ansi-6.0.1.tgz",
-     "integrity": "sha512-Y38VPSHcqkFrCpFnQ9vuSXmquv5oX0KpGeT6aGrr3o3Gc9AlVa6JBfUS0CnbxGGZF+/0ooI7KrPuUSztUdU5A==",
-     "dev": true,
-     "dependencies": {
-       "ansi-regex": "^5.0.1"
-     },
-     "engines": {
-       "node": ">=8"
-     }
-   },
-   "node_modules/strip-ansi": {
-     "version": "7.1.0",
-
```

```
-      "resolved": "https://registry.npmjs.org/strip-ansi/-/strip-ansi-7.1.0.tgz",
-                                "integrity": "sha512-iq6eVVI64nQQTRYq2KtEg2d2uU7LElhTJwsH4YzIHZshxlgZms/wIc4VoDQTlG/IvVlrBKG06CrZnp0qv7hkcQ==",
-      "dev": true,
-      "dependencies": {
-        "ansi-regex": "^6.0.1"
-      },
-      "engines": {
-        "node": ">=12"
-      },
-      "funding": {
-        "url": "https://github.com/chalk/strip-ansi?sponsor=1"
-      }
-    },
-    "node_modules/strip-ansi-cjs": {
-      "name": "strip-ansi",
-      "version": "6.0.1",
-      "resolved": "https://registry.npmjs.org/strip-ansi/-/strip-ansi-6.0.1.tgz",
-                                "integrity": "sha512-Y38VPSHcqkFrCpFnQ9vuSXmquuv5oX0KpGeT6aGrr3o3Gc9AlVa6JBfUS0CnbxGGZF+/0ooI7KrPuUSztUdU5A==",
-      "dev": true,
-      "dependencies": {
-        "ansi-regex": "^5.0.1"
-      },
-      "engines": {
-        "node": ">=8"
-      }
-    },
-    "node_modules/strip-ansi-cjs/node_modules/ansi-regex": {
-      "version": "5.0.1",
-      "resolved": "https://registry.npmjs.org/ansi-regex/-/ansi-regex-5.0.1.tgz",
-                                "integrity": "sha512-quJQXlTSUGL2LH9SUXo8VwsY4soanhgo6LNSm84E1LBcE8s300wpdiRzyR9z/ZZJMLMWv37q00b9pdJlMUEKFQ==",
-
```

```

-
  "dev": true,
-
  "engines": {
    "node": ">=8"
  }
},
"node_modules/strip-json-comments": {
  "version": "3.1.1",
  "resolved": "https://registry.npmjs.org/strip-json-comments/-/strip-json-comments-3.1.1.tgz",
@@ -4036,28 +3991,6 @@
  "url": "https://github.com/sponsors/sindresorhus"
}
},
"node_modules/sucrase": {
  "version": "3.35.0",
  "resolved": "https://registry.npmjs.org/sucrase/-/sucrase-3.35.0.tgz",
  "integrity": "sha512-8EbVDiu9iN/nESwxeSxDKe0dunta1G0lHufmSSXxMD2z2/tMZpDMpvXQGsc+ajGo8y2uYUmixaSRUc/QPoQ0GA==",
  "dev": true,
  "dependencies": {
    "@jridgewell/gen-mapping": "^0.3.2",
    "commander": "^4.0.0",
    "glob": "^10.3.10",
    "lines-and-columns": "^1.1.6",
    "mz": "^2.7.0",
    "pirates": "^4.0.1",
    "ts-interface-checker": "^0.1.9"
  },
  "bin": {
    "sucrase": "bin/sucrase",
    "sucrase-node": "bin/sucrase-node"
  },
  "engines": {
    "node": ">=16 || 14 >=14.17"
  }
},

```

```

"node_modules/supports-color": {
  "version": "7.2.0",
  "resolved": "https://registry.npmjs.org/supports-color/-/supports-color-7.2.0.tgz",
@@ -4070,74 +4003,25 @@
    "node": ">=8"
  }
},
- "node_modules/supports-preserve-symlinks-flag": {
-   "version": "1.0.0",
-   "resolved": "https://registry.npmjs.org/supports-preserve-symlinks-flag/-/supports-preserve-symlinks-flag-1.0.0.tgz",
-   "integrity": "sha512-ot0WnXS9fgdkgIcePe6RHNk1WA8+muPa6cSjeR3V8K27q9BB1rTE3R1p7Hv0z1ZyAc8s6Vvv8DIyWf681MAt0w==",
-   "dev": true,
-   "engines": {
-     "node": ">= 0.4"
-   },
-   "funding": {
-     "url": "https://github.com/sponsors/ljharb"
-   }
- },
- "node_modules/tailwindcss": {
-   "version": "3.4.16",
-   "resolved": "https://registry.npmjs.org/tailwindcss/-/tailwindcss-3.4.16.tgz",
-   "integrity": "sha512-TI4Cyx7gDiZ6r44ewaJmt0o6BrMCT5ak5e0rmJ/G9Xq3w7CX/5VXl/zIPEJZFUK5VEqwByyhqNPycPlvcK4ZNw==",
+   "version": "4.1.17",
+   "resolved": "https://registry.npmjs.org/tailwindcss/-/tailwindcss-4.1.17.tgz",
+   "integrity": "sha512-j9Ee2YjuQqYT9bbRTfTZht9W/ytp5H+jJpZKiYdP/bpnXARAuELt9ofP0lPnmHjbga7SNQIxdtAXCmtKVYjN+Q==",
    "dev": true,
-   "dependencies": {
-     "@alloc/quick-lru": "^5.2.0",

```

```

-
    "arg": "^5.0.2",
-
    "chokidar": "^3.6.0",
-
    "didyoumean": "^1.2.2",
-
    "dlv": "^1.1.3",
-
    "fast-glob": "^3.3.2",
-
    "glob-parent": "^6.0.2",
-
    "is-glob": "^4.0.3",
-
    "jiti": "^1.21.6",
-
    "lilconfig": "^3.1.3",
-
    "micromatch": "^4.0.8",
-
    "normalize-path": "^3.0.0",
-
    "object-hash": "^3.0.0",
-
    "picocolors": "^1.1.1",
-
    "postcss": "^8.4.47",
-
    "postcss-import": "^15.1.0",
-
    "postcss-js": "^4.0.1",
-
    "postcss-load-config": "^4.0.2",
-
    "postcss-nested": "^6.2.0",
-
    "postcss-selector-parser": "^6.1.2",
-
    "resolve": "^1.22.8",
-
    "sucrase": "^3.35.0"
-
},
-
"bin": {
-
    "tailwind": "lib/cli.js",
-
    "tailwindcss": "lib/cli.js"
-
},
-
"engines": {
-
    "node": ">=14.0.0"
-
}
-
},
-
"node_modules/thenify": {
-
    "version": "3.3.1",
-
        "resolved": "https://registry.npmjs.org/thenify/-/thenify-3.3.1.tgz",
-
                    "integrity": "sha512-RVZSIV5IG10Hk3enotrhz0T9em6cyHBLkH/YAZuKqd8hRkKhSfCGIcP2KUY0EPxndzANBmNllzWPwak+bheSw==",
-

```

```

-
  "dev": true,
-
  "dependencies": {
    "any-promise": "^1.0.0"
  }
+
  "license": "MIT"
},
-
  "node_modules/thenify-all": {
    "version": "1.6.0",
-
    "resolved": "https://registry.npmjs.org/thenify-all/-/thenify-
all-1.6.0.tgz",
-
      "integrity": "sha512-
RNxQH/qI8/t3thXJDwcstU04zeqo64+Uy/+sNVRBx4Xn20X+OZ9oP+iJnNFqplFra2ZU
VeKCSa2oVWi3T4uVmA==",
+
  "node_modules/tapable": {
+
    "version": "2.3.0",
+
    "resolved": "https://registry.npmjs.org/tapable/-/tapable-
2.3.0.tgz",
+
      "integrity": "sha512-
g9ljZiwki/LfxmQAD03dEY1CbpmXT5Hm2fJ+QaGKwSXUylMybePR7/67YW7j0rrvjEgL
1Fmz5kzyAjWVWLlucg==",
        "dev": true,
-
      "dependencies": {
-
        "thenify": ">= 3.1.0 < 4"
-
      },
+
      "license": "MIT",
      "engines": {
-
        "node": ">=0.8"
+
        "node": ">=6"
+
      },
+
      "funding": {
+
        "type": "opencollective",
+
        "url": "https://opencollective.com/webpack"
      }
-
    },
-
    "node_modules/tinyglobby": {
-
      "@@ -4212,12 +4096,6 @@"
        "typescript": ">=4.2.0"
      }

```

```

    },
-  "node_modules/ts-interface-checker": {
-    "version": "0.1.13",
-    "resolved": "https://registry.npmjs.org/ts-interface-checker/-/ts-interface-checker-0.1.13.tgz",
-    "integrity": "sha512-Y/arbvn+rrz3JCKl9C4kVNfTfSm2/mEp5FSz5EsZSANGPSlQrpRI5M4PKF+mJnE52j0090PnPSc3Ur3bTQw0gA==",
-    "dev": true
-  },
  "node_modules/type-check": {
    "version": "0.4.0",
    "resolved": "https://registry.npmjs.org/type-check/-/type-check-0.4.0.tgz",
@@ -4305,12 +4183,6 @@
    "punycode": "^2.1.0"
  },
},
-  "node_modules/util-deprecate": {
-    "version": "1.0.2",
-    "resolved": "https://registry.npmjs.org/util-deprecate/-/util-deprecate-1.0.2.tgz",
-    "integrity": "sha512-EPD5q1uXyFxJpCrLnCc1nHnq3g0a6DZBocAIiI2TaSCA7VCJ1UJDMagCzIkXNsUYfd1dak//LTEQ8xiIbrHtcw==",
-    "dev": true
-  },
  "node_modules/vite": {
    "version": "6.4.1",
    "resolved": "https://registry.npmjs.org/vite/-/vite-6.4.1.tgz",
@@ -4441,112 +4313,12 @@
    "node": ">=0.10.0"
  },
},
-  "node_modules/wrap-ansi": {
-    "version": "8.1.0",
-    "resolved": "https://registry.npmjs.org/wrap-ansi/-/wrap-ansi-8.1.0.tgz",

```

```

-
-                                         "integrity":      "sha512-
si7QWI6zUMq56bESFvagt mzMdG0toxfR+Sez11Mobfc7tm+VkJUckk9bW2UeffTGVUb0k
sxmSw0AA2gs8g71NCQ==",
-
-     "dev": true,
-
-     "dependencies": {
-
-       "ansi-styles": "^6.1.0",
-
-       "string-width": "^5.0.1",
-
-       "strip-ansi": "^7.0.1"
-
-     },
-
-     "engines": {
-
-       "node": ">=12"
-
-     },
-
-     "funding": {
-
-       "url": "https://github.com/chalk/wrap-ansi?sponsor=1"
-
-     }
-
-   },
-
-   "node_modules/wrap-ansi-cjs": {
-
-     "name": "wrap-ansi",
-
-     "version": "7.0.0",
-
-     "resolved": "https://registry.npmjs.org/wrap-ansi/-/wrap-ansi-
7.0.0.tgz",
-
-                                         "integrity":      "sha512-
YVG1j2kamLSTxw6NsZjoBxfSwsn0ycdesmc4p+Q21c5zPuZ1pl+NfxVdxPtdHvmNV0Q6
XSYG4AUyt/Fi7D16Q==",
-
-     "dev": true,
-
-     "dependencies": {
-
-       "ansi-styles": "^4.0.0",
-
-       "string-width": "^4.1.0",
-
-       "strip-ansi": "^6.0.0"
-
-     },
-
-     "engines": {
-
-       "node": ">=10"
-
-     },
-
-     "funding": {
-
-       "url": "https://github.com/chalk/wrap-ansi?sponsor=1"
-
-     }
-
-   },
-
-   "node_modules/wrap-ansi-cjs/node_modules/ansi-regex": {

```

```

-      "version": "5.0.1",
-      "resolved": "https://registry.npmjs.org/ansi-regex/-/ansi-
regex-5.0.1.tgz",
-          "integrity": "sha512-
quJQXlTSUGL2LH9SUXo8VwsY4soanhgo6LNSm84E1LBcE8s300wpdiRzyR9z/ZZJMlMW
v37q00b9pdJlMUEKFQ==",
-      "dev": true,
-      "engines": {
-          "node": ">=8"
-      }
-  },
-  "node_modules/wrap-ansi-cjs/node_modules/emoji-regex": {
-      "version": "8.0.0",
-      "resolved": "https://registry.npmjs.org/emoji-regex/-/emoji-
regex-8.0.0.tgz",
-          "integrity": "sha512-
MSjYzcWNOA0ewAHpz0MxpYFvwg6yjy1NG3xteoqz644VCo/RPgnr1/GGt+ic3iJTzQ8E
u3TdM14SawnVUmGE6A==",
-      "dev": true
-  },
-  "node_modules/wrap-ansi-cjs/node_modules/string-width": {
-      "version": "4.2.3",
-      "resolved": "https://registry.npmjs.org/string-width/-/string-
width-4.2.3.tgz",
-          "integrity": "sha512-
wKyQRQpjJ0sIp62ErSzdgssjMJWsap5oRNihHhu6G7JV0/9jIB6UyevL+tXu0qrng8j/c
xKTWyWUwvSTriiZz/g==",
-      "dev": true,
-      "dependencies": {
-          "emoji-regex": "^8.0.0",
-          "is-fullwidth-code-point": "^3.0.0",
-          "strip-ansi": "^6.0.1"
-      },
-      "engines": {
-          "node": ">=8"
-      }
-  },
-  "node_modules/wrap-ansi-cjs/node_modules/strip-ansi": {
-      "version": "6.0.1",

```

```

-           "resolved": "https://registry.npmjs.org/stripe-ansi/-/stripe-
ansi-6.0.1.tgz",
-                           "integrity": "sha512-
Y38VPSHcqkFrCpFnQ9vuSXmquv5oX0KpGeT6aGrr3o3Gc9AlVa6JBfUS0CnbxGGZF+/0ooI7KrPuUSztUdU5A==",
-           "dev": true,
-           "dependencies": {
-             "ansi-regex": "^5.0.1"
-           },
-           "engines": {
-             "node": ">=8"
-           }
-         },
-         "node_modules/wrap-ansi/node_modules/ansi-styles": {
-           "version": "6.2.1",
-           "resolved": "https://registry.npmjs.org/ansi-styles/-/ansi-
styles-6.2.1.tgz",
-                           "integrity": "sha512-
bN798gFFQX+viw3R7yrGWRqnrN2oRkEkUjjl4JNn4E8GxxbjtG3FbrEIIY3l8/hrwUwIeCZvi4Qu0TP4MErVug==",
-           "dev": true,
-           "engines": {
-             "node": ">=12"
-           },
-           "funding": {
-             "url": "https://github.com/chalk/ansi-styles?sponsor=1"
-           }
-         },
-         "node_modules/yallist": {
-           "version": "3.1.1",
-           "resolved": "https://registry.npmjs.org/yallist/-/yallist-
3.1.1.tgz",
-                           "integrity": "sha512-
a4UGQaWPH59m0XUYnAG2ewncQS4i4F43Tv3JoAM+s2VDAmS9NsK8GpDMLrCHPkFT7h3K6T0oUNn2pb7RoXx4g==",
-           "dev": true
-         },
-         "node_modules/yaml": {
-           "version": "2.6.1",

```

```

-   "resolved": "https://registry.npmjs.org/yaml/-/yaml-2.6.1.tgz",
-   "integrity": "sha512-7r0XPzioN/Q9kXBro/XPnA6kznR73DHq+GXh50N7ZozR06aMjbmiBuKste2ws1TFkC5d1dw0Goo0CepZXJ2SAg==",
-   "dev": true,
-   "bin": {
-     "yaml": "bin.mjs"
-   },
-   "engines": {
-     "node": ">= 14"
-   }
- },
"node_modules/yocto-queue": {
  "version": "0.1.0",
  "resolved": "https://registry.npmjs.org/yocto-queue/-/yocto-queue-0.1.0.tgz",
diff --git a/front/package.json b/front/package.json
index 5fbdae1..6576bab 100644
--- a/front/package.json
+++ b/front/package.json
@@ -7,6 +7,7 @@
    "dev": "vite",
    "build": "tsc -b && vite build",
    "lint": "eslint .",
+   "lint:fix": "eslint . --fix",
    "preview": "vite preview"
  },
  "dependencies": {
@@ -20,6 +21,7 @@
  },
  "devDependencies": {
    "@eslint/js": "^9.15.0",
+   "@tailwindcss/postcss": "^4.1.17",
    "@types/react": "^18.3.12",
    "@types/react-dom": "^18.3.1",
    "@vitejs/plugin-react": "^4.3.4",
@@ -27,9 +29,10 @@

```

```

    "eslint": "^9.15.0",
    "eslint-plugin-react-hooks": "^5.0.0",
    "eslint-plugin-react-refresh": "^0.4.14",
+   "eslint-plugin-unused-imports": "^4.0.0",
    "globals": "^15.12.0",
    "postcss": "^8.4.49",
-   "tailwindcss": "^3.4.16",
+   "tailwindcss": "^4.1.17",
    "typescript": "~5.6.2",
    "typescript-eslint": "^8.15.0",
    "vite": "^6.0.1"

diff --git a/front/postcss.config.js b/front/postcss.config.js
index 2e7af2b..1c87846 100644
--- a/front/postcss.config.js
+++ b/front/postcss.config.js
@@ -1,6 +1,6 @@
export default {
  plugins: {
-   tailwindcss: {},
+   '@tailwindcss/postcss': {},
    autoprefixer: {},
  },
}

diff --git a/front/src/contexts/AuthContext.tsx b/front/src/contexts/AuthContext.tsx
index 37d8df6..ce8bbd0 100644
--- a/front/src/contexts/AuthContext.tsx
+++ b/front/src/contexts/AuthContext.tsx
@@ -1,5 +1,7 @@
-import { createContext, useContext, useState, ReactNode } from
"react";
+import type { ReactNode } from "react";
+import { createContext, useContext, useState } from "react";
 import { useNavigate } from "react-router-dom";
+import type { AuthUser } from "../services/api";

interface User {

```

```

    id: number;
@@ -12,7 +14,7 @@ interface User {
  interface AuthContextType {
    isAuthenticated: boolean;
    user: User | null;
-   login: (userData: any) => void;
+   login: (userData: AuthUser) => void;
    logout: () => void;
  }
}

@@ -22,25 +24,43 @@ export function AuthProvider({ children }: { children: ReactNode }) {
  const navigate = useNavigate();
  const [user, setUser] = useState<User | null>(() => {
    const savedUser = localStorage.getItem("user");
-   return savedUser ? JSON.parse(savedUser) : null;
+   if (!savedUser) return null;
+   try {
+     const parsed: unknown = JSON.parse(savedUser);
+     if (
+       parsed &&
+       typeof parsed === "object" &&
+       "id" in parsed &&
+       "username" in parsed &&
+       "token" in parsed &&
+       "isAdmin" in parsed &&
+       "role" in parsed
+     ) {
+       const p = parsed as User;
+       return p;
+     }
+     return null;
+   } catch {
+     return null;
+   }
  });
}

```

```

- const login = (userData: any) => {
-   const userWithRole = {
+ const login = (userData: AuthUser) => {
+   const userWithRole: User = {
     ...userData,
-     role: userData.isAdmin ? "ROLE_ADMIN" : "ROLE_USER"
+     role: userData.isAdmin ? "ROLE_ADMIN" : "ROLE_USER",
   };
   setUser(userWithRole);
   localStorage.setItem("user", JSON.stringify(userWithRole));
   localStorage.setItem("token", userData.token);
-   navigate("/");
+   void navigate("/");
};

const logout = () => {
  setUser(null);
  localStorage.removeItem("user");
  localStorage.removeItem("token");
-   navigate("/login");
+   void navigate("/login");
};

return (
@@ -52,6 +72,7 @@ export function AuthProvider({ children }: {
children: ReactNode }) {
);

}

+// eslint-disable-next-line react-refresh/only-export-components
export function useAuth() {
  const context = useContext(AuthContext);
  if (context === undefined) {
diff --git a/front/src/index.css b/front/src/index.css
index bd6213e..a461c50 100644
--- a/front/src/index.css
+++ b/front/src/index.css

```

```

@@ -1,3 +1 @@
-@tailwind base;
-@tailwind components;
-@tailwind utilities;
\ No newline at end of file
+@import "tailwindcss";
\ No newline at end of file
diff --git a/front/src/pages/AdminArticles.tsx
b/front/src/pages/AdminArticles.tsx
index c8ea1dc..25f7625 100644
--- a/front/src/pages/AdminArticles.tsx
+++ b/front/src/pages/AdminArticles.tsx
@@ -30,7 +30,7 @@ export default function AdminArticles() {
    if (!variables.accepted && articlesData?.items.length === 1 &&
page > 1) {
        setPage((prev) => prev - 1);
    }
-
    queryClient.invalidateQueries({ queryKey:
["unacceptedArticles"] });
+
    void queryClient.invalidateQueries({ queryKey:
["unacceptedArticles"] });
},
});
}

diff --git a/front/src/pages/ArticleDetails.tsx
b/front/src/pages/ArticleDetails.tsx
index fd44cb8..3b4986c 100644
--- a/front/src/pages/ArticleDetails.tsx
+++ b/front/src/pages/ArticleDetails.tsx
@@ -8,7 +8,7 @@ import {
    getArticleFeedbacks,
    addArticleFeedback,
} from "../services/api";
-import { Article, Feedback } from "../services/types";
+import type { Article, Feedback } from "../services/types";
    import StarRating from "../components/StarRating";
    import CollapsibleReviewForm
        from "../components/CollapsibleReviewForm";

```

```

@@ -38,7 +38,7 @@ export default function ArticleDetails() {
    mutationFn: (data: { text: string; stars: number }) =>
      addArticleFeedback(id!, data.text, data.stars),
    onSuccess: () => {
-      queryClient.invalidateQueries({ queryKey: ["articleFeedbacks", id] });
+      void queryClient.invalidateQueries({ queryKey: ["articleFeedbacks", id] });
    },
  );
}

diff --git a/front/src/pages/Articles.tsx
b/front/src/pages/Articles.tsx
index 2f719d5..34c75dc 100644
--- a/front/src/pages/Articles.tsx
+++ b/front/src/pages/Articles.tsx
@@ -49,7 +49,7 @@ export default function Articles() {
    mutationFn: (data: { productName: string; header: string; text: string }) =>
      createArticle(data.productName, data.header, data.text),
    onSuccess: () => {
-      queryClient.invalidateQueries({ queryKey: ["articles"] });
+      void queryClient.invalidateQueries({ queryKey: ["articles"] });
    },
    setIsCreateModalOpen(false),
    setNewArticle({ productName: "", header: "", text: "" }),
  },
@@ -96,7 +96,7 @@ export default function Articles() {
    {/* Error Display */}
    {queryError && (
      <div className="mb-6 p-4 text-red-700 bg-red-100 border border-red-400 rounded-md">
-        Failed to load articles: {(queryError as Error).message}
+        Failed to load articles: {(queryError).message}
      </div>
    )}

```

```

diff --git a/front/src/pages/BrandDetails.tsx
b/front/src/pages/BrandDetails.tsx
index ebe8a7b..ae81acf 100644
--- a/front/src/pages/BrandDetails.tsx
+++ b/front/src/pages/BrandDetails.tsx
@@ -8,7 +8,8 @@ import {
    likeProduct,
    unlikeProduct,
} from "../services/api";
-import { Brand, formatProductType, ProductSimple } from
"../services/types";
+import type { Brand, ProductSimple } from "../services/types";
+import { formatProductType } from "../services/types";
import api from "../services/api";
import Pagination from "../components/Pagination";
export default function BrandDetails() {
@@ -25,21 +26,20 @@ export default function BrandDetails() {
} = useQuery<Brand>({
    queryKey: ["brand", id],
    queryFn: async () => {
-        const response = await api.get(`/brand/id/${id}`);
+        const response = await api.get<Brand>(`/brand/id/${id}`);
        return response.data;
    },
});
- const { data: productsResponse, isLoading: isLoadingProducts } =
useQuery({
+ const { data: products, isLoading: isLoadingProducts } =
useQuery<ProductSimple[]>({
    queryKey: ["brandProducts", id, page],
    queryFn: () =>
        getProductsByBrand(Number(id), (page - 1) * pageSize,
pageSize),
    enabled: !!id,
});
- const products = productsResponse?.data as ProductSimple[];
const { data: userProducts } = useQuery<ProductSimple[]>({
    queryKey: ["userProducts"],

```

```

queryFn: async () => {
-   const response = await api.get("/user/products");
+   const response = await api.get<ProductSimple[]>("/user/products");
    return response.data;
},
});

@@ -155,11 +155,10 @@ export default function BrandDetails() {
    <h3 className="text-lg font-semibold">{product.name}</h3>
    <button
        onClick={() => handleLikeClick(product.id)}
-       className={`flex items-center justify-center w-10 h-10 rounded-full transition-colors ${likedProducts[product.id]
-         ? "text-red-500 hover:text-red-600"
-         : "text-gray-400 hover:text-gray-500"
-       }`}
+       className={`flex items-center justify-center w-10 h-10 rounded-full transition-colors ${likedProducts[product.id]
+         ? "text-red-500 hover:text-red-600"
+         : "text-gray-400 hover:text-gray-500"
+       }`}
        disabled={likeMutation.isPending}
    >
    <svg
@@ -182,7 +181,7 @@ export default function BrandDetails() {
    <div className="flex items-center mb-2">
        <StarRating
            rating={product.rate}
-           onRatingChange={() => {}}
+           onRatingChange={() => { }}
            size="sm"
        />
        <span className="ml-2 text-gray-600">
diff --git a/front/src/pages/Brands.tsx b/front/src/pages/Brands.tsx
index 75481a0..1d89872 100644
--- a/front/src/pages/Brands.tsx

```

```

+++ b/front/src/pages/Brands.tsx
@@ -3,7 +3,7 @@ import { useQuery } from "@tanstack/react-query";
import Navbar from "../components/Navbar";
import Pagination from "../components/Pagination";
import api from "../services/api";
-import { Brand } from "../services/types";
+import type { Brand } from "../services/types";
import { Link } from "react-router-dom";

export default function Brands() {
@@ -12,7 +12,7 @@ export default function Brands() {
    const { data: brandsData, isLoading } = useQuery<Brand[]>({
        queryKey: ["brands", page],
        queryFn: async () => {
-            const response = await api.get("/brand", {
+            const response = await api.get<Brand[]>("/brand", {
                params: {
                    from: (page - 1) * pageSize,
                    size: pageSize,
diff --git
b/front/src/pages/Catalog.tsx
a/front/src/pages/Catalog.tsx
index 47d1ccf..479be6c 100644
--- a/front/src/pages/Catalog.tsx
+++ b/front/src/pages/Catalog.tsx
@@ -3,7 +3,8 @@ import { useQuery, useMutation } from "@tanstack/react-
query";
import { Link } from "react-router-dom";
import Navbar from "../components/Navbar";
import StarRating from "../components/StarRating";
-import { formatProductType, ProductSimple } from "../services/types";
+import type { ProductSimple } from "../services/types";
+import { formatProductType } from "../services/types";
import api from "../services/api";
import { likeProduct, unlikeProduct } from "../services/api";

@@ -92,7 +93,7 @@ export default function Catalog() {
    const { data: userProducts } = useQuery<ProductSimple[]>({

```

```

    queryKey: ["userProducts"],
    queryFn: async () => {
-      const response = await api.get("/user/products");
+      const response = await api.get<ProductSimple[]>("/user/products");
        return response.data;
    },
});

@@ -143,7 +144,7 @@ export default function Catalog() {
  const { data: products } = useQuery<ProductSimple[]>({
    queryKey: ["products", filters, page, sort],
    queryFn: async () => {
-      const response = await api.get("/product/filter", {
+      const response = await api.get<ProductSimple[]>("/product/filter", {
        params: {
          name: filters.name || undefined,
          minRate: filters.minRate,
        }
      });
    }
  });
}

diff --git a/front/src/pages/Forum.tsx b/front/src/pages/Forum.tsx
index a29c803..7bdb74c 100644
--- a/front/src/pages/Forum.tsx
+++ b/front/src/pages/Forum.tsx
@@ -25,7 +25,7 @@ export default function Forum() {
  mutationFn: (data: { title: string; description: string }) =>
    createForumTopic(data.title, data.description),
  onSuccess: () => {
-    queryClient.invalidateQueries({ queryKey: ["forumTopics"] });
+    void queryClient.invalidateQueries({ queryKey: ["forumTopics"] });
    setIsCreateModalOpen(false);
    setNewTopic({ title: "", description: "" });
  },
}

diff --git a/front/src/pages/ForumTopic.tsx b/front/src/pages/ForumTopic.tsx
index 35a0ff4..a547622 100644
--- a/front/src/pages/ForumTopic.tsx
+++ b/front/src/pages/ForumTopic.tsx
@@ -29,7 +29,7 @@ export default function ForumTopic() {

```

```

    const createPostMutation = useMutation({
      mutationFn: (content: string) => createForumPost(Number(id), content),
      onSuccess: () => {
        -       queryClient.invalidateQueries({ queryKey: ["forumPosts", id] });
        +       void queryClient.invalidateQueries({ queryKey: ["forumPosts", id] });
        setNewPost("");
      },
    });
@@ -37,8 +37,8 @@ export default function ForumTopic() {
  const closeTopicMutation = useMutation({
    mutationFn: () => closeForumTopic(Number(id)),
    onSuccess: () => {
      -       queryClient.invalidateQueries({ queryKey: ["forumPosts", id] });
      -       queryClient.invalidateQueries({ queryKey: ["forumTopics"] });
      +       void queryClient.invalidateQueries({ queryKey: ["forumPosts", id] });
      +       void queryClient.invalidateQueries({ queryKey: ["forumTopics"] });
    },
  });

diff --git a/front/src/pages/Home.tsx b/front/src/pages/Home.tsx
index 3ec7b79..4faa9f1 100644
--- a/front/src/pages/Home.tsx
+++ b/front/src/pages/Home.tsx
@@ -12,7 +12,7 @@ import {
  unsubscribeFromMusician,
  checkMusicianSubscribed,
} from "../services/api";
-import { Article, Musician, ProductSimple } from "../services/types";
+import type { Article, Musician, ProductSimple } from "../services/types";
"../services/types";
import api from "../services/api";
import StarRating from "../components/StarRating";

```

```

@@ -64,7 +64,7 @@ export default function Home() {
    const { data: userProducts } = useQuery<ProductSimple[]>({
        queryKey: ["userProducts"],
        queryFn: async () => {
-            const response = await api.get("/user/products");
+            const response = await api.get<ProductSimple[]>("/user/products");
                return response.data;
        },
    });
@@ -140,8 +140,8 @@ export default function Home() {
    ...prev,
    [musicianId]: !prev[musicianId],
});
-        queryClient.invalidateQueries({ queryKey: ["musicianSubscriptions"] });
-        queryClient.invalidateQueries({ queryKey: ["topMusicians"] });
+        void queryClient.invalidateQueries({ queryKey: ["musicianSubscriptions"] });
+        void queryClient.invalidateQueries({ queryKey: ["topMusicians"] });
    },
    onError: (error) => {
        console.error("Subscription error:", error);
@@ -173,7 +173,7 @@ export default function Home() {
        Loading products...
    </div>
} : (
-        topProducts?.map((product: any) => (
+        topProducts?.map((product: ProductSimple) => (
            <div
                key={product.id}
                className="bg-white p-6 rounded-lg shadow-md"
@@ -285,14 +285,14 @@ export default function Home() {
        Loading articles...
    </div>
} : (

```

```

-
      topArticles?.map((article: any) => (
+
      topArticles?.map((article: Article) => (
        <div
          key={article.id}
          className="bg-white p-6 rounded-lg shadow-md"
        >
          <h3          className="text-lg"          font-
semibold>{article.header}</h3>
          <p className="text-gray-600 mt-2 line-clamp-2">
-
            {article.content}
+
            {article.text}
          </p>
          <div className="mt-2 text-sm text-gray-500">
            By{" "}
          </div>
@@ -324,7 +324,7 @@ export default function Home() {
  Loading musicians...
</div>
) : (
-
  topMusicians?.map((musician: any) => (
+
  topMusicians?.map((musician: Musician) => (
    <div
      key={musician.id}
      className="bg-white p-6 rounded-lg shadow-md
flex flex-col items-center"
diff --git a/front/src/pages/Login.tsx b/front/src/pages/Login.tsx
index 0415f71..b77b496 100644
--- a/front/src/pages/Login.tsx
+++ b/front/src/pages/Login.tsx
@@ -1,6 +1,7 @@
import { useState } from "react";
import { Link, useNavigate } from "react-router-dom";
import { useMutation } from "@tanstack/react-query";
+import type { AxiosError } from "axios";
import { login } from "../services/api";
import { useAuth } from "../contexts/AuthContext";

@@ -15,10 +16,11 @@ export default function Login() {

```

```

mutationFn: () => login(username, password),
onSuccess: (data) => {
    authLogin(data);
-    navigate("/");
+    void navigate("/");
},
-    onError: (error: any) => {
-        setError(error.response?.data?.message || "An error occurred");
+    onError: (error: unknown) => {
+        const axiosError = error as AxiosError<{ message?: string }>;
+        setError(axiosError.response?.data?.message || "An error occurred");
    },
});

```

```

diff --git a/front/src/pages/MusicianProfile.tsx b/front/src/pages/MusicianProfile.tsx
index 0e2be58..db421f4 100644
--- a/front/src/pages/MusicianProfile.tsx
+++ b/front/src/pages/MusicianProfile.tsx
@@ -11,7 +11,7 @@ import {
    searchProducts,
} from "../services/api";
import { useMutation, useQueryClient } from "@tanstack/react-query";
-import { Genre, TypeOfMusician, ProductSimple } from "../services/types.ts";
+import type { Genre, TypeOfMusician, ProductSimple } from "../services/types.ts";
import { useState } from "react";
export default function MusicianProfile() {
    const { id } = useParams<{ id: string }>();
@@ -35,8 +35,8 @@ export default function MusicianProfile() {
    }
},
onSuccess: () => {
-    queryClient.invalidateQueries({ queryKey: ["musicianSubscription", id] });
-    queryClient.invalidateQueries({ queryKey: ["musician", id] });

```

```

+             void queryClient.invalidateQueries({ queryKey: ["musicianSubscription", id] });
+             void queryClient.invalidateQueries({ queryKey: ["musician", id] });
        },
    );
    const [isAddProductModalOpen, setIsAddProductModalOpen] = useState(false);
@@ -51,7 +51,7 @@ export default function MusicianProfile() {
    mutationFn: () =>
        addProductToMusician(musician?.name || "", Number(newProductId)),
        onSuccess: () => {
-            queryClient.invalidateQueries({ queryKey: ["musician", id] });
+            void queryClient.invalidateQueries({ queryKey: ["musician", id] });
            setIsAddProductModalOpen(false);
            setNewProductId("");
        },
@@ -107,11 +107,10 @@ export default function MusicianProfile() {
        <div className="flex gap-4">
            <button
                onClick={() => subscriptionMutation.mutate()}
-               className={`px-4 py-2 rounded-full text-sm font-medium ${{
-                   isSubscribed
-                   ? "bg-gray-200 text-gray-700 hover:bg-gray-300"
-                   : "bg-indigo-600 text-white hover:bg-indigo-700"
-               }}`}
+               className={`px-4 py-2 rounded-full text-sm font-medium ${isSubscribed
+                   ? "bg-gray-200 text-gray-700 hover:bg-gray-300"
+                   : "bg-indigo-600 text-white hover:bg-indigo-700"
+               }}`}
                disabled={subscriptionMutation.isPending}
            >
                {isSubscribed ? "Unsubscribe" : "Subscribe"}

```

```

@@ -213,7 +212,7 @@ export default function MusicianProfile() {
    <input
      type="text"
      value={searchQuery}
      -
      onChange={(e) => handleSearch(e.target.value)}
      +
      onChange={(e) => { void handleSearch(e.target.value);
    }}
      className="w-full p-2 border rounded-md"
      placeholder="Type to search products..."
    />
@@ -233,11 +232,10 @@ export default function MusicianProfile() {
          setSearchQuery(product.name);
          setSearchResults([]);
        }
-
        className={`${`p-2 flex items-center gap-3
hover:bg-gray-100 cursor-pointer ${{
-
          selectedProduct && (selectedProduct as ProductSimple).id ===
product.id)
-
          ? "bg-indigo-50"
-
          : ""
-
        }}`}
+
        className={`${`p-2 flex items-center gap-3
hover:bg-gray-100 cursor-pointer ${{
          selectedProduct && (selectedProduct as ProductSimple).id ===
product.id)
+
          ? "bg-indigo-50"
+
          : ""
+
        }}`}
      >
      <img
        src={
diff --git a/front/src/pages/Musicians.tsx
b/front/src/pages/Musicians.tsx
index 707608a..84dc5e1 100644
--- a/front/src/pages/Musicians.tsx
+++ b/front/src/pages/Musicians.tsx
@@ -11,7 +11,7 @@ import {
  checkMusicianSubscribed,

```

```

        createMusician,
    } from "../services/api";
-import { Genre, TypeOfMusician } from "../services/types";
+import type { Genre, TypeOfMusician } from "../services/types";

type SortOption = {
    field: "NAME" | "SUBSCRIBERS";
@@ -150,7 +150,7 @@ export default function Musicians() {
    typesOfMusician: TypeOfMusician[];
)
      => createMusician(data.name,           data.genres,
data.typesOfMusician),
    onSuccess: () => {
-
    queryClient.invalidateQueries({ queryKey: ["musicians"] });
+
    void queryClient.invalidateQueries({ queryKey: ["musicians"] });
);
    setIsCreateModalOpen(false);
    setNewMusicianName("");
    setSelectedGenres([]);
diff          --git      a/front/src/pages/ProductDetails.tsx
b/front/src/pages/ProductDetails.tsx
index 643eb90..200b47d 100644
--- a/front/src/pages/ProductDetails.tsx
+++ b/front/src/pages/ProductDetails.tsx
@@ -15,7 +15,7 @@ import {
    subscribeToMusician,
    unsubscribeFromMusician,
} from "../services/api";
-import {
+import type {
    Product,
    Article,
    Musician,
@@ -44,6 +44,7 @@ const formatProductType = (type: string) => {

export default function ProductDetails() {
    const { id } = useParams();
+
    const queryClient = useQueryClient();

```

```

    const [articlesPage, setArticlesPage] = useState(1);
    const [musiciansPage, setMusiciansPage] = useState(1);
    const [feedbackPage, setFeedbackPage] = useState(1);
@@ -122,7 +123,7 @@ export default function ProductDetails() {
    mutationFn: (data: { text: string; stars: number }) =>
        addProductFeedback(id!, data.text, data.stars),
    onSuccess: () => {
-        useQueryClient().invalidateQueries({
+        void queryClient.invalidateQueries({
            queryKey: ["productFeedbacks", id],
        });
    },
diff --git a/front/src/pages/Register.tsx
b/front/src/pages/Register.tsx
index 87c5665..fb51631 100644
--- a/front/src/pages/Register.tsx
+++ b/front/src/pages/Register.tsx
@@ -1,6 +1,7 @@
    import { useState } from "react";
    import { Link, useNavigate } from "react-router-dom";
    import { useMutation } from "@tanstack/react-query";
+import type { AxiosError } from "axios";
    import { register } from "../services/api";
    import { useAuth } from "../contexts/AuthContext";

@@ -16,10 +17,11 @@ export default function Register() {
    mutationFn: () => register(username, password),
    onSuccess: (data) => {
        login(data);
-        navigate("/");
+        void navigate("/");
    },
-        onError: (error: any) => {
-            setError(error.response?.data?.message || "An error occurred");
+        onError: (error: unknown) => {
+            const axiosError = error as AxiosError<{ message?: string }>;

```

```

+           setError(axiosError.response?.data?.message || "An error
occurred");
        },
    });
}

diff --git a/front/src/pages/UserInfo.tsx
b/front/src/pages/UserInfo.tsx
index 8f2c246..a5788dc 100644
--- a/front/src/pages/UserInfo.tsx
+++ b/front/src/pages/UserInfo.tsx
@@ -4,7 +4,7 @@ import { Link } from "react-router-dom";
import Navbar from "../components/Navbar";
import { useAuth } from "../contexts/AuthContext";
import api, { getUserMusicians } from "../services/api";
-import {
+import type {
    ProductSimple,
    Musician,
    Genre,
    @@@ -26,7 +26,7 @@ export default function UserInfo() {
    const { data: likedProducts } = useQuery<ProductSimple[]>({
        queryKey: ["userProducts"],
        queryFn: async () => {
-            const response = await api.get("/user/products");
+            const response = await api.get<ProductSimple[]>("/user/products");
            return response.data;
        },
    });
@@ -44,7 +44,7 @@ export default function UserInfo() {
    const { data: userGenres } = useQuery<Genre[]>({
        queryKey: ["userGenres"],
        queryFn: async () => {
-            const response = await api.get("/user/genres");
+            const response = await api.get<Genre[]>("/user/genres");
            return response.data;
        },
    },
}

```

```

    });
@@ -53,7 +53,7 @@ export default function UserInfo() {
  const { data: userTypes } = useQuery<TypeOfMusician[]>({
    queryKey: ["userTypes"],
    queryFn: async () => {
-      const response = await api.get("/user/types");
+      const response = await api.get<TypeOfMusician[]>("/user/types");
        return response.data;
    },
  });
@@ -64,7 +64,7 @@ export default function UserInfo() {
    await api.post("/user/genres", { genres });
  },
  onSuccess: () => {
-    queryClient.invalidateQueries({ queryKey: ["userGenres"] });
+    void queryClient.invalidateQueries({ queryKey: ["userGenres"] });
  );
  setIsEditingGenres(false);
},
});
@@ -74,7 +74,7 @@ export default function UserInfo() {
    await api.post("/user/types", { typesOfMusicians: types });
  },
  onSuccess: () => {
-    queryClient.invalidateQueries({ queryKey: ["userTypes"] });
+    void queryClient.invalidateQueries({ queryKey: ["userTypes"] });
  );
  setIsEditingTypes(false);
},
});
diff --git a/front/src/services/api.ts b/front/src/services/api.ts
index 2bde062..e6fb823 100644
--- a/front/src/services/api.ts
+++ b/front/src/services/api.ts
@@ -1,5 +1,5 @@
 import axios from "axios";
-import {

```

```

+import type {
  Product,
  Article,
  Musician,
@@ -24,18 +24,37 @@ api.interceptors.request.use((config) => {
  return config;
});

-export const login = async (username: string, password: string) => {
-  const response = await api.post("/auth/login", { username, password });
+export type AuthUser = {
+  id: number;
+  username: string;
+  token: string;
+  isAdmin: boolean;
+};
+
+export const login = async (
+  username: string,
+  password: string
+): Promise<AuthUser> => {
+  const response = await api.post<AuthUser>("/auth/login", {
+    username,
+    password,
+  });
  return response.data;
};

-export const register = async (username: string, password: string)
=> {
-  const response = await api.post("/auth/register", { username, password });
+export const register = async (
+  username: string,
+  password: string
+): Promise<AuthUser> => {

```

```

+ const response = await api.post<AuthUser>("/auth/register", {
+   username,
+   password,
+ });
  return response.data;
};

-export const getTopProducts = async () => {
- const response = await api.get("/product/filter", {
+export const getTopProducts = async (): Promise<ProductSimple[]> =>
{
+ const response = await api.get<ProductSimple[]>("/product/filter",
{
  params: {
    minRate: 4,
    maxRate: 5,
@@ -50,8 +69,8 @@ export const getTopProducts = async () => {
  return response.data;
};

-export const getTopArticles = async () => {
- const response = await api.get("/article", {
+export const getTopArticles = async (): Promise<Article[]> => {
+ const response = await api.get<Article[]>("/article", {
  params: {
    from: 0,
    size: 6,
@@ -62,8 +81,8 @@ export const getTopArticles = async () => {
  return response.data;
};

-export const getTopMusicians = async () => {
- const response = await api.get("/musician", {
+export const getTopMusicians = async (): Promise<Musician[]> => {
+ const response = await api.get<Musician[]>("/musician", {
  params: {
    from: 0,

```

```

    size: 6,
@@ -75,7 +94,7 @@ export const getTopMusicians = async () => {
};

export const getProductDetails = async (id: string): Promise<Product> => {
-  const response = await api.get(`/product/id/${id}`);
+  const response = await api.get<Product>(`/product/id/${id}`);
  return response.data;
};

@@ -84,7 +103,7 @@ export const getProductArticles = async (
  from: number,
  size: number
): Promise<{ items: Article[] }> => {
-  const response = await api.get(`/product/${id}/articles`, {
+  const response = await api.get<{ articles: Article[] }>(`/product/${id}/articles`, {
    params: { from, size },
  });
  return {
@@ -97,7 +116,7 @@ export const getProductMusicians = async (
  from: number,
  size: number
): Promise<{ items: Musician[] }> => {
-  const response = await api.get(`/product/${id}/musicians`, {
+  const response = await api.get<Musician[]>(`/product/${id}/musicians`, {
    params: { from, size },
  });
  return {
@@ -110,7 +129,7 @@ export const getProductFeedbacks = async (
  from: number,
  size: number
): Promise<{ items: Feedback[] }> => {
-  const response = await api.get(`/feedback/product/${id}`, {
+  const response = await api.get<Feedback[]>(`/feedback/product/${id}`, {

```

```

        params: { from, size },
    });
    return {
@@ -123,7 +142,7 @@ export const getProductShops = async (
    from: number,
    size: number
): Promise<{ items: ShopProduct[] }> => {
-    const response = await api.get(`/product/${id}/shops`, {
+    const response = await api.get<{ shops: ShopProduct[] }>(`/product/${id}/shops`, {
        params: { from, size },
    });

@@ -135,22 +154,19 @@ export const getProductShops = async (
    export const checkProductLiked = async (
        productId: string
    ): Promise<boolean> => {
-        const response = await api.get(`/user/products`);
-        console.error(response.data);
-        return response.data.some(
-            (product: ProductSimple) => product.id === Number(productId)
-        );
+        const response = await api.get<ProductSimple[]>(`/user/products`);
+        return response.data.some((product) => product.id === Number(productId));
    };

    export const likeProduct = async (productId: string): Promise<boolean> => {
-        const response = await api.post(`/user/product`, {
+        const response = await api.post<boolean>(`/user/product`, {
            productId: Number(productId),
        });
        return response.data;
    };

    export const unlikeProduct = async (productId: string): Promise<boolean> => {

```

```

- const response = await api.delete(`user/product`, {
+ const response = await api.delete<boolean>(`user/product`, {
    data: {
        productId: Number(productId),
    },
@@ -159,7 +175,7 @@ export const unlikeProduct = async (productId: string): Promise<boolean> => {
};

export const getArticleDetails = async (id: string): Promise<Article> => {
- const response = await api.get(`/article/id/${id}`);
+ const response = await api.get<Article>(`/article/id/${id}`);
    return response.data;
};

@@ -168,7 +184,7 @@ export const getArticleFeedbacks = async (
    from: number,
    size: number
): Promise<{ items: Feedback[] }> => {
- const response = await api.get(`/feedback/article/${id}`, {
+ const response = await api.get<Feedback[]>(`/feedback/article/${id}`, {
    params: { from, size },
});
return {
@@ -181,7 +197,7 @@ export const addArticleFeedback = async (
    text: string,
    stars: number
): Promise<boolean> => {
- const response = await api.post(`/feedback/article`, {
+ const response = await api.post<boolean>(`/feedback/article`, {
    articleId: Number(articleId),
    text,
    stars,
@@ -194,7 +210,7 @@ export const addProductFeedback = async (
    text: string,

```

```

    stars: number
  ): Promise<boolean> => {
-  const response = await api.post(`/feedback/product`, {
+  const response = await api.post<boolean>(`/feedback/product`, {
    productId: Number(productId),
    text,
    stars,
@@ -205,7 +221,7 @@ export const addProductFeedback = async (
  export const subscribeToMusician = async (
    musicianId: number
  ): Promise<boolean> => {
-  const response = await api.post(`/musician/subscription`, {
+  const response = await api.post<boolean>(`/musician/subscription`,
{
    musicianId,
  });
  return response.data;
@@ -214,7 +230,7 @@ export const subscribeToMusician = async (
  export const unsubscribeFromMusician = async (
    musicianId: number
  ): Promise<boolean> => {
-  const response = await api.delete(`/musician/subscription`, {
+  const response = await api.delete<boolean>(`/musician/subscription`, {
    data: { musicianId: musicianId },
  });
  return response.data;
@@ -223,7 +239,7 @@ export const unsubscribeFromMusician = async (
  export const checkMusicianSubscribed = async (
    musicianId: number
  ): Promise<boolean> => {
-  const response = await api.get(`/musician/${musicianId}/subscription`);
+  const response = await api.get<boolean>(`/musician/${musicianId}/subscription`);
    return response.data;
  };
}

```

```

@@ -232,7 +248,7 @@ export const getArticles = async (
    size: number,
    asc: boolean
): Promise<{ items: Article[] }> => {
-  const response = await api.get("/article", {
+  const response = await api.get<Article[]>("/article", {
      params: { from, size, sortBy: "CREATED_AT", ascending: asc },
    });
    return {
@@ -245,7 +261,7 @@ export const searchArticlesByHeader = async (
    from: number,
    size: number
): Promise<{ items: Article[] }> => {
-  const response = await api.get(`/article/header/${header}`, {
+  const response = await api.get<Article[]>(`/article/header/${header}`, {
      params: { from, size },
    });
    return {
@@ -258,7 +274,7 @@ export const getMusicians = async (
    size: number,
    sort: { field: string; direction: boolean }
): Promise<{ items: Musician[] }> => {
-  const response = await api.get("/musician", {
+  const response = await api.get<Musician[]>("/musician", {
      params: { from, size, sortBy: sort.field, ascending: sort.direction },
    });
    return {
@@ -271,7 +287,7 @@ export const searchMusiciansByName = async (
    from: number,
    size: number
): Promise<{ items: Musician[] }> => {
-  const response = await api.get(`/musician/name/${name}`, {
+  const response = await api.get<Musician[]>(`/musician/name/${name}`, {
      params: { from, size },
    });
    return {

```

```

    });
    return {
@@ -283,7 +299,7 @@ export const getForumTopics = async (
    from: number,
    size: number
): Promise<{ items: ForumTopic[] }> => {
-  const response = await api.get("/forum/topic", {
+  const response = await api.get<ForumTopic[]>("/forum/topic", {
      params: { from, size },
    });
    return {
@@ -295,7 +311,7 @@ export const createForumTopic = async (
    title: string,
    description: string
): Promise<ForumTopic> => {
-  const response = await api.post("/forum/topic", {
+  const response = await api.post<ForumTopic>("/forum/topic", {
      title,
      description,
    });
@@ -307,7 +323,7 @@ export const getTopicPosts = async (
    from: number,
    size: number
): Promise<{ items: ForumPost[]; topic: ForumTopic }> => {
-  const response = await api.get(`/forum/topic/${topicId}/posts`, {
+  const response = await api.get<ForumPost[]>(`/forum/topic/${topicId}/posts`, {
      params: { from, size },
    });
    const top = await getForumTopicById(topicId);
@@ -321,7 +337,7 @@ export const createForumPost = async (
    topicId: number,
    content: string
): Promise<ForumPost> => {
-  const response = await api.post("/forum/post", {
+  const response = await api.post<ForumPost>("/forum/post", {
      forumTopicId: topicId,

```

```

        content,
    });
@@ -329,7 +345,7 @@ export const createForumPost = async (
    };

    export const closeForumTopic = async (topicId: number): Promise<boolean> => {
-    const response = await api.put(`/forum/topic/${topicId}/close`);
+    const response = await api.put<boolean>(`/forum/topic/${topicId}/close`);
        return response.data;
    };

@@ -337,8 +353,8 @@ export const getProductsByBrand = async (
    brandId: number,
    from: number,
    size: number
-) => {
-    const response = await api.get("/product/filter", {
+): Promise<ProductSimple[]> => {
+    const response = await api.get<ProductSimple[]>("/product/filter",
{
    params: {
        brandId: brandId,
        from: from,
@@ -347,37 +363,46 @@ export const getProductsByBrand = async (
        sortBy: "NAME",
    },
});
-    return response;
+    return response.data;
};

export const getUserMusicians = async (): Promise<Musician[]> => {
-    const response = await api.get("/user/subscribed");
+    const response = await api.get<Musician[]>("/user/subscribed");
        return response.data;

```

```

};

export const getUserGenres = async (): Promise<Genre[]> => {
-  const response = await api.get("/user/genres");
+  const response = await api.get<Genre[]>("/user/genres");
    return response.data;
};

export const getUserTypes = async (): Promise<TypeOfMusician[]> => {
-  const response = await api.get("/user/types");
+  const response = await api.get<TypeOfMusician[]>("/user/types");
    return response.data;
};

-export const getMusicianInfo = async (id: string) => {
-  const response = await api.get(`musician/id/${id}`);
+export type MusicianInfo = {
+  id: number;
+  name: string;
+  subscribers: number;
+  genres?: Genre[];
+  typesOfMusicians?: TypeOfMusician[];
+  products?: ProductSimple[];
+};
+
+export const getMusicianInfo = async (id: string): Promise<MusicianInfo> => {
+  const response = await api.get<MusicianInfo>(`musician/id/${id}`);
    return response.data;
};

export const isTopicOwner = async (topicId: number): Promise<boolean> => {
-  const response = await api.get(`forum/topic/${topicId}/is-owner`);
+  const response = await api.get<boolean>(`forum/topic/${topicId}/is-owner`);
    return response.data;
};

```

```

export const getForumTopicById = async (
  topicId: number
): Promise<ForumTopic> => {
-  const response = await api.get(`/forum/topic/${topicId}`);
+      const response = await api.get<ForumTopic>(`/forum/topic/${topicId}`);
  return response.data;
};

@@ -386,7 +411,7 @@ export const createMusician = async (
  genres: Genre[],
  typesOfMusician: TypeOfMusician[]
): Promise<string> => {
-  const response = await api.post("/musician", {
+  const response = await api.post<string>("/musician", {
    name,
    genres,
    typesOfMusician,
@@ -398,7 +423,7 @@ export const addProductToMusician = async (
  musicianName: string,
  productId: number
): Promise<boolean> => {
-  const response = await api.post("/musician/product", {
+  const response = await api.post<boolean>("/musician/product", {
    musicianName,
    productId,
  });
@@ -410,7 +435,7 @@ export const searchProducts = async (
  from: number = 0,
  size: number = 5
): Promise<ProductSimple[]> => {
-  const response = await api.get(`/product/${name}`, {
+  const response = await api.get<Product[]>(`/product/${name}`, {
    params: { from, size },
  });
  return response.data.map((product: Product) => product.product);

```

```

@@ -420,7 +445,9 @@ export const getUnacceptedArticles = async (
    from: number,
    size: number
): Promise<{ items: { article: Article; product: ProductSimple }[] }> => {
-  const response = await api.get("/article/unaccepted", {
+  const response = await api.get<
+    { article: Article; product: ProductSimple }[]
+  >("/article/unaccepted", {
    params: { from, size },
  });
  return {
@@ -432,7 +459,7 @@ export const moderateArticle = async (
  articleId: number,
  accepted: boolean
): Promise<boolean> => {
-  const response = await api.post("/article/moderate", {
+  const response = await api.post<boolean>("/article/moderate", {
    articleId,
    accepted,
  });
@@ -444,7 +471,7 @@ export const createArticle = async (
  header: string,
  text: string
): Promise<Article> => {
-  const response = await api.post("/article", {
+  const response = await api.post<Article>("/article", {
    productName,
    header,
    text,

```

## Коммит d79c8a6

```

commit d79c8a6f6f5f4f03f865bb58f0bb73d15f743355
Author: Romariok <ronya-ko@yandex.ru>
Date:   Tue Nov 18 14:45:49 2025 +0300

```

fixed tsx errors in front

```

diff --git a/front/src/pages/MusicianProfile.tsx
b/front/src/pages/MusicianProfile.tsx
index c470a16..0e2be58 100644
--- a/front/src/pages/MusicianProfile.tsx
+++ b/front/src/pages/MusicianProfile.tsx
@@ -234,7 +234,7 @@ export default function MusicianProfile() {
    setSearchResults([]);

}
   className={`p-2 flex items-center gap-3
hover:bg-gray-100 cursor-pointer ${

-
   selectedProduct?.id === product.id
+
   (selectedProduct && "id" in
selectedProduct && (selectedProduct as ProductSimple).id ===
product.id)

?
"bg-indigo-50"
:
""
}`}

diff --git a/front/src/pages/UserInfo.tsx
b/front/src/pages/UserInfo.tsx
index 9191240..8f2c246 100644
--- a/front/src/pages/UserInfo.tsx
+++ b/front/src/pages/UserInfo.tsx
@@ -3,7 +3,7 @@ import { useQuery, useMutation, useQueryClient } from
"@tanstack/react-query";
import { Link } from "react-router-dom";
import Navbar from "../components/Navbar";
import { useAuth } from "../contexts/AuthContext";
-import api, { getUserGenres, getUserMusicians } from
"../services/api";
+import api, { getUserMusicians } from "../services/api";
import {
  ProductSimple,
  Musician,

```

## Коммит 2e6bef0

```

commit 2e6bef03770ff0c0e23b164ea2871c45b23f7fb7
Author: Romariok <ronya-ko@yandex.ru>
Date: Thu Nov 20 14:48:07 2025 +0300

```

imported tailwindcss modules to front

```
diff --git a/front/package-lock.json b/front/package-lock.json
index fc9fae3..e282027 100644
--- a/front/package-lock.json
+++ b/front/package-lock.json
@@ -1616,6 +1616,66 @@
      "node": ">=14.0.0"
    }
  },
+          "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@emnapi/core": {
+            "version": "1.6.0",
+            "dev": true,
+            "inBundle": true,
+            "license": "MIT",
+            "optional": true,
+            "dependencies": {
+              "@emnapi/wasi-threads": "1.1.0",
+              "tslib": "^2.4.0"
+            }
+          },
+          "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@emnapi/runtime": {
+            "version": "1.6.0",
+            "dev": true,
+            "inBundle": true,
+            "license": "MIT",
+            "optional": true,
+            "dependencies": {
+              "tslib": "^2.4.0"
+            }
+          },
+          "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@emnapi/wasi-threads": {
+            "version": "1.1.0",
+          }
        }
      }
    }
  }
}
```

```
+      "dev": true,
+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "tslib": "^2.4.0"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-wasi/node_modules/@napi-
rs/wasm-runtime": {
+      "version": "1.0.7",
+      "dev": true,
+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "@emnapi/core": "^1.5.0",
+        "@emnapi/runtime": "^1.5.0",
+        "@tybys/wasm-util": "^0.10.1"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@tybys/wasm-util": {
+      "version": "0.10.1",
+      "dev": true,
+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "tslib": "^2.4.0"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/tslib": {
+      "version": "2.8.1",
+      "dev": true,
+      "inBundle": true,
```

```
+      "license": "0BSD",
+      "optional": true
+    },
+    "node_modules/@tailwindcss/oxide-win32-arm64-msvc": {
+      "version": "4.1.17",
+      "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
win32-arm64-msvc/-/oxide-win32-arm64-msvc-4.1.17.tgz",
```

## Коммит 2e6bef0

```
commit 2e6bef03770ff0c0e23b164ea2871c45b23f7fb7
Author: Romariok <ronya-ko@yandex.ru>
Date:   Thu Nov 20 14:48:07 2025 +0300
```

imported tainwindcss modules to front

```
diff --git a/front/package-lock.json b/front/package-lock.json
index fc9fae3..e282027 100644
--- a/front/package-lock.json
+++ b/front/package-lock.json
@@ -1616,6 +1616,66 @@
          "node": ">=14.0.0"
        }
      },
+      "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@emnapi/core": {
+        "version": "1.6.0",
+        "dev": true,
+        "inBundle": true,
+        "license": "MIT",
+        "optional": true,
+        "dependencies": {
+          "@emnapi/wasi-threads": "1.1.0",
+          "tslib": "^2.4.0"
+        }
+      },
+      "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@emnapi/runtime": {
```

```
+      "version": "1.6.0",
+      "dev": true,
+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "tslib": "^2.4.0"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@emnapi/wasi-threads": {
+      "version": "1.1.0",
+      "dev": true,
+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "tslib": "^2.4.0"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-wasi/node_modules/@napi-
rs/wasm-runtime": {
+      "version": "1.0.7",
+      "dev": true,
+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "@emnapi/core": "^1.5.0",
+        "@emnapi/runtime": "^1.5.0",
+        "@tybys/wasm-util": "^0.10.1"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/@tybys/wasm-util": {
+      "version": "0.10.1",
+      "dev": true,
```

```

+      "inBundle": true,
+      "license": "MIT",
+      "optional": true,
+      "dependencies": {
+        "tslib": "^2.4.0"
+      }
+
+    },
+
+    "node_modules/@tailwindcss/oxide-wasm32-
wasi/node_modules/tslib": {
+      "version": "2.8.1",
+      "dev": true,
+      "inBundle": true,
+      "license": "0BSD",
+      "optional": true
+    },
+
"node_modules/@tailwindcss/oxide-win32-arm64-msvc": {
  "version": "4.1.17",
  "resolved": "https://registry.npmjs.org/@tailwindcss/oxide-
win32-arm64-msvc/-/oxide-win32-arm64-msvc-4.1.17.tgz",

```

## Перенос backend, frontend и парсера в Docker

Чтобы можно было запускать наше приложение одной командой, мы добавили docker-compose файл со сборкой всех наших компонентов, в частности backend, frontend, postgres (база данных + pgAdmin), Grafana, prometheus и исходники парсера. Парсер был написан на Haskell, теперь его исходники находятся в проекте, и он собирается вместе с другими контейнерами. Раньше у нас просто был исполняемый файл в репозитории.

Коммиты: [1](#), [2](#), [3](#)

### Коммит 95a4c0e

```

commit 95a4c0ea436496523f2ad704a36d5001588f7127
Author: Romariok <ronya-ko@yandex.ru>
Date:   Thu Nov 20 14:48:35 2025 +0300

```

add docker builds for frontend and backend

```

diff --git a/.docker/docker-compose.yaml b/.docker/docker-
compose.yaml
index 9a1e3f7..9409061 100644
--- a/.docker/docker-compose.yaml
+++ b/.docker/docker-compose.yaml
@@ -23,7 +23,7 @@ services:
    deploy:
      resources:
        limits:
-          cpus: '1'
+          cpus: "1"
          memory: 4G
      networks:
        - postgres
@@ -43,7 +43,7 @@ services:
    deploy:
      resources:
        limits:
-          cpus: '0.5'
+          cpus: "0.5"
          memory: 1G
      networks:
        - postgres
@@ -99,7 +99,44 @@ services:
      networks:
        - postgres

+ backend:
+   container_name: backend
+   build:
+     context: ../backend
+     dockerfile: Dockerfile
+   environment:
+     PORT: "5252"
+     POSTGRES_NAME: "postgres"
+     POSTGRES_USER: "postgres"
+     POSTGRES_PASSWORD: "pgpwd"

```

```

+
"jdbc:postgresql://postgres:5432/postgres"
+
JWT_SECRET: "dev-secret"
+
APP_EXTERNAL_MARKDOWN_PARSER_PATH: "/opt/app/parser.exe"
+
volumes:
-
  - ./backend/logs:/opt/app/logs
-
  - ./backend/parser.exe:/opt/app/parser.exe
+
ports:
-
  - "5252:5252"
+
depends_on:
+
  postgres:
    condition: service_healthy
+
  restart: unless-stopped
+
networks:
-
  - postgres
+
+
  frontend:
+
  container_name: frontend
+
  build:
+
    context: ../front
+
    dockerfile: Dockerfile
+
  ports:
-
  - "5173:80"
+
  depends_on:
+
  - backend
+
  restart: unless-stopped
+
networks:
-
  - postgres

networks:
  postgres:
-
  driver: bridge
\ No newline at end of file
+
  driver: bridge
diff --git a/backend/Dockerfile b/backend/Dockerfile
new file mode 100644
index 0000000..0efea77

```

```

--- /dev/null
+++ b/backend/Dockerfile
@@ -0,0 +1,21 @@
+FROM maven:3.9.9-eclipse-temurin-17 AS build
+WORKDIR /workspace
+
+COPY pom.xml .
+COPY src ./src
+
+RUN --mount=type=cache,target=/root/.m2 mvn -q -DskipTests package
+
+FROM eclipse-temurin:17-jre
+WORKDIR /opt/app
+
+COPY --from=build /workspace/target/GuitarMatchIS-0.0.1.jar /opt/app/app.jar
+COPY docker/entrypoint.sh /opt/app/entrypoint.sh
+RUN chmod +x /opt/app/entrypoint.sh
+
+EXPOSE 5252
+ENV PORT=5252
+
+ENTRYPOINT ["/opt/app/entrypoint.sh"]
+
+
diff --git b/backend/docker/entrypoint.sh a/backend/docker/entrypoint.sh
new file mode 100644
index 0000000..c225904
--- /dev/null
+++ b/backend/docker/entrypoint.sh
@@ -0,0 +1,10 @@
+#!/bin/sh
+set -e
+
+if [ -f "/opt/app/parser.exe" ]; then
+  chmod +x /opt/app/parser.exe || true

```

```
+fi
+
+exec java -jar /opt/app/app.jar
+
+
diff --git a/front/Dockerfile b/front/Dockerfile
new file mode 100644
index 0000000..370717a
--- /dev/null
+++ b/front/Dockerfile
@@ -0,0 +1,23 @@
+FROM node:20-alpine AS build
+WORKDIR /app
+
+COPY package*.json ./
+COPY tsconfig*.json ./
+COPY vite.config.ts ./
+COPY tailwind.config.js ./
+COPY postcss.config.js ./
+COPY index.html ./
+COPY public ./public
+COPY src ./src
+
+RUN npm ci --no-audit --no-fund
+RUN npm i -D @tailwindcss/postcss --no-audit --no-fund
+RUN npm run build
+
+FROM nginx:1.27-alpine
+COPY --from=build /app/dist /usr/share/nginx/html
+COPY docker/nginx.conf /etc/nginx/conf.d/default.conf
+
+EXPOSE 80
+
+
diff --git a/front/docker/nginx.conf b/front/docker/nginx.conf
new file mode 100644
```

```
index 0000000..b5c20ba
--- /dev/null
+++ b/front/docker/nginx.conf
@@ -0,0 +1,13 @@
+server {
+    listen 80;
+    server_name _;
+
+    root /usr/share/nginx/html;
+    index index.html;
+
+    location / {
+        try_files $uri /index.html;
+    }
+}
```

### Коммит fc49336

```
commit fc493363e260344117d64a4593d89c0dfa5500b
Author: ta4ilka69 <artem_balin_2004@mail.ru>
Date:   Thu Nov 20 15:33:36 2025 +0300
```

```
parser sources added
```

```
diff --git a/parser/Main.hs b/parser/Main.hs
new file mode 100644
index 0000000..4a33a95
--- /dev/null
+++ b/parser/Main.hs
@@ -0,0 +1,27 @@
+module Main where
+
+import qualified Data.ByteString as BS
+import qualified Data.Text as T
+import qualified Data.Text.Encoding as TE
+import qualified Data.Text.IO as TIO
```

```

+import Markdown
+import Parser
+import System.Environment (getArgs)
+import System.IO (hSetEncoding, stdin, stdout, utf8)
+
+main :: IO ()
+main = do
+  -- Set UTF-8 encoding for stdout
+  hSetEncoding stdout utf8
+  hSetEncoding stdin utf8
+  args <- getArgs
+  case args of
+    ["-c", text] -> do
+      let html = T.concat [T.pack "<!DOCTYPE
html>\n<html>\n<head>\n<meta charset=\"UTF-8\">\n</head>\n<body>\n",
markdownToHtml (T.pack text), T.pack "\n</body>\n</html>"]
+      TIO.putStrLn html
+    [input, output] -> do
+      sinput <- BS.readFile input -- read raw bytes
+      let content = TE.decodeUtf8 sinput -- decode to UTF-8 Text
+      let html = T.concat [T.pack "<!DOCTYPE
html>\n<html>\n<head>\n<meta charset=\"UTF-8\">\n</head>\n<body>\n",
markdownToHtml content, T.pack "\n</body>\n</html>"]
+      BS.writeFile output (TE.encodeUtf8 html)
+    _ -> putStrLn "Usage: program <input> <output> OR program -c"
diff --git a/parser/Markdown.hs b/parser/Markdown.hs
new file mode 100644
index 0000000..30045d0
--- /dev/null
+++ b/parser/Markdown.hs
@@ -0,0 +1,180 @@
+module Markdown
+  ( markdownToHtml,
+  )
+where
+
+import Data.Text (Text)
+import qualified Data.Text as T

```

```

+import qualified Parser (parseMarkdown)
+import Types
+
+markdownToHtml :: Text -> Text
+markdownToHtml    input    =  T.concat    $    map    renderElement    $
Parser.parseMarkdown $ T.lines input
+
+renderElement :: MDElement -> Text
+renderElement element = case element of
+  LabReport info ->
+    T.concat
+      [ T.pack "<div align=\"center\">\n",
+        T.pack "<h3>",
+        escapeHtml (university info),
+        T.pack "</h3>\n",
+        T.pack "<div style=\"margin-top: 50px;\">\n",
+        T.pack "<h2><b>",
+        escapeHtml (labName info),
+        T.pack "</b></h2>\n",
+        T.pack "</div>\n",
+        T.pack "<h3>по дисциплине\n\"",
+        escapeHtml (discipline info),
+        T.pack "\n</h3>\n",
+        T.pack "</div>\n\n",
+        T.pack "<div align=\"right\" style=\"margin-top: 50px;\">\n",
+        T.pack "    <b>Выполнили студенты группы ",
+        escapeHtml (groupName info),
+        T.pack "</b>\n",
+        T.pack "    <ul style=\"list-style-type: none; padding-left: 0; margin: 0;\">\n",
+        renderStudentsList (students info),
+        T.pack "        </ul>\n",
+        T.pack "        <div style=\"margin-top: 20px;\">\n",
+        T.pack "        <b>Преподаватель:</b>\n",
+        T.pack "        ",
+        escapeHtml (teacher info),
+        T.pack "\n",

```

```

+      T.pack "    </div>\n",
+      T.pack "</div>\n\n",
+      T.pack "<div align=\"center\" style=\"margin-top: 200px;
text: center\">\n",
+      T.pack "r. ",
+      escapeHtml (city info),
+      T.pack "<br/>",
+      escapeHtml (year info),
+      T.pack " r.\n",
+      T.pack "</div>\n\n",
+      T.pack "<div style=\"page-break-after: always;\"></div>\n"
+
]
where
+  renderStudentsList :: [Text] -> Text
+  renderStudentsList =
+    T.concat
+      . map
+        ( \student ->
+          T.concat [T.pack "      <li>", escapeHtml student,
T.pack "</li>\n"]
+
)
+  Image alt url title ->
+  let titleAttr =
+    if T.null title
+      then T.pack ""
+      else T.concat [T.pack " title=\"\"", escapeHtml title,
T.pack "\""]
+    in T.concat
+      [ T.pack "<img src=\"\"",
+        escapeHtml url,
+        T.pack "\" alt=\"\"",
+        escapeHtml alt,
+        titleAttr,
+        T.pack "\" />"
+
]
+  Link text url title ->
+  let titleAttr = case title of

```

```

+           Just t -> T.concat [T.pack " title=\"\"", escapeHtml t,
T.pack "\""]
+           Nothing -> T.pack ""
+       in T.concat
+           [ T.pack "<a href=\"\"", 
+             escapeHtml url,
+             T.pack "\"",
+             titleAttr,
+             T.pack ">",
+             escapeHtml text,
+             T.pack "</a>"
+           ]
+   Paragraph elements -> T.concat [T.pack "<p>", T.concat (map
renderElement elements), T.pack "</p>\n"]
+ LineBreak -> T.pack "<br />\n"
+ Header level text id ->
+   T.concat
+     [T.pack "<h", T.pack (show level), T.pack " id=\"\"", id, T.pack
"\">", T.concat (map renderListItem text), T.pack "</h", T.pack (show
level), T.pack ">\n"]
+ Bold text -> T.concat [T.pack "<strong>", escapeHtml text, T.pack
"</strong>"]
+ Italic text -> T.concat [T.pack "<em>", escapeHtml text, T.pack
"</em>"]
+ BoldItalic text -> T.concat [T.pack "<strong><em>", escapeHtml
text, T.pack "</em></strong>"]
+ Strikethrough text -> T.concat [T.pack "<s>", escapeHtml text,
T.pack "</s>"]
+ Underlined text -> T.concat [T.pack "<u>", escapeHtml text, T.pack
"</u>"]
+ HorizontalRule -> T.pack "<hr />\n"
+ UnorderedList items -> T.concat [T.pack "<ul>\n", T.concat (map
renderListItem items), T.pack "</ul>\n"]
+ OrderedList items -> T.concat [T.pack "<ol>\n", T.concat (map
renderListItem items), T.pack "</ol>\n"]
+ ListItem mainContent children ->
+   let mainContentHtml = renderElement mainContent
+       childrenHtml = case children of
+         [] -> T.pack ""

```

```

+      _ -> T.concat [T.pack "<ul>", T.concat (map renderElement
children), T.pack "</ul>"]
+    in T.concat [T.pack "<li>", mainContentHtml, childrenHtml, T.pack
"</li>\n"]
+  CodeBlock text -> T.concat [T.pack "<pre><code>", escapeHtml text,
T.pack "</code></pre>\n"]
+  InlineCode text -> T.concat [T.pack "<code>", escapeHtml text,
T.pack "</code>"]
+  PlainText text -> escapeHtml text
+  Checkbox checked content ->
+    T.concat
+      [ T.pack "<input class=\"task-list-item-checkbox\" ",
+        if checked then T.pack "checked="" " else T.pack "",
+        T.pack "type=\"checkbox\" />",
+        T.pack " ",
+        T.concat (map renderItem content)
+      ]
+  Table headers alignments rows ->
+    T.concat
+      [ T.pack "<table>\n",
+        T.pack "  <thead>\n",
+        T.pack "    <tr>\n",
+        T.concat (zipWith renderTableHeader headers alignments),
+        T.pack "    </tr>\n",
+        T.pack "  </thead>\n",
+        T.pack "  <tbody>\n",
+        T.concat (map (renderTableRow alignments) rows),
+        T.pack "  </tbody>\n",
+        T.pack "</table>\n"
+      ]
+
+renderListItem :: MDElement -> Text
+renderListItem = renderElement
+
+titleAttr :: Text -> Text
+titleAttr title = if T.null title then T.pack "" else T.concat [T.pack
" title=\"\"", title, T.pack "\""]
+

```

```

+escapeHtml :: Text -> Text
+escapeHtml =
+  T.replace (T.pack "<") (T.pack "&lt;")
+  . T.replace (T.pack ">") (T.pack "&gt;")
+  . T.replace (T.pack "\") (T.pack "&quot;")
+
+renderTableHeader :: MDElement -> TableAlignment -> Text
+renderTableHeader header alignment =
+  let alignStyle = case alignment of
+    AlignLeft -> " style=\"text-align: left\""
+    AlignCenter -> " style=\"text-align: center\""
+    AlignRight -> " style=\"text-align: right\""
+    AlignDefault -> ""
+  in T.concat
+    [ T.pack "      <th",
+      T.pack alignStyle,
+      T.pack ">",
+      renderElement header,
+      T.pack "</th>\n"
+    ]
+
+renderTableRow :: [TableAlignment] -> [MDElement] -> Text
+renderTableRow alignments cells =
+  T.concat
+    [ T.pack "      <tr>\n",
+      T.concat (zipWith renderTableCell alignments cells),
+      T.pack "      </tr>\n"
+    ]
+
+renderTableCell :: TableAlignment -> MDElement -> Text
+renderTableCell alignment cell =
+  let alignStyle = case alignment of
+    AlignLeft -> " style=\"text-align: left\""
+    AlignCenter -> " style=\"text-align: center\""
+    AlignRight -> " style=\"text-align: right\""
+    AlignDefault -> ""

```

```

+   in T.concat
+     [ T.pack "<td",
+       T.pack alignStyle,
+       T.pack ">",
+       renderElement cell,
+       T.pack "</td>\n"
+     ]
diff --git a/parser/Parser.hs b/parser/Parser.hs
new file mode 100644
index 0000000..ef75706
--- /dev/null
+++ b/parser/Parser.hs
@@ -0,0 +1,580 @@
+module Parser (parseMarkdown, isTableLine) where
+
+import Control.Monad (guard)
+import Crypto.Hash (Digest, MD5, hash)
+import Data.Char (isAlpha, isAlphaNum, isDigit, isSpace)
+import Data.List (groupBy)
+import Data.Maybe (fromMaybe, isJust)
+import Data.Text (Text, break)
+import qualified Data.Text as T
+import Data.Text.Encoding (encodeUtf8)
+import Types
+  ( LabReportInfo(..),
+    MDElement(..),
+    TableAlignment(..),
+  )
+
+data ListContext = ListContext
+  { indentLevel :: Int,
+    content :: Text,
+    listType :: ListType,
+    children :: [MDElement]
+  }
+deriving (Show, Eq)

```

```

+
+data ListType = Ordered | Unordered deriving (Show, Eq)
+
+isTableLine :: Text -> Bool
+isTableLine line =
+  let trimmed = T.strip line
+  in T.isPrefixOf (T.pack "|") trimmed
+    && T.isSuffixOf (T.pack "|") trimmed
+    && T.count (T.pack "|") trimmed > 1
+
+identifyTable :: [Text] -> Maybe ([Text], [Text])
+identifyTable lines @_ : _ : _ =
+  let (potentialTableLines, rest) = span isTableLine lines
+  in if length potentialTableLines >= 3
+    && isTableHeaderSeparator (potentialTableLines !! 1)
+    then
+      Just
+        ( take 3 potentialTableLines
+          ++ takeWhile isTableLine (drop 3 potentialTableLines),
+          rest
+        )
+    else Nothing
+
+  where
+    isTableHeaderSeparator line =
+      let trimmed = T.strip line
+      in T.all (\c -> c `elem` ['-', ':', '|']) trimmed
+        && T.count (T.pack "|") trimmed > 1
+
+parseTableAlignmentLine :: Text -> [TableAlignment]
+parseTableAlignmentLine line =
+  let cells = T.splitOn (T.pack "|") line
+  cleanCells = filter (not . T.null) $ map T.strip cells
+  in map parseAlignment cleanCells
+
+  where
+    parseAlignment cell
+      | T.isPrefixOf (T.pack ":-:") cell = AlignCenter

```

```

+      | T.isSuffixOf (T.pack "-:") cell = AlignRight
+      | T.isPrefixOf (T.pack ":-") cell = AlignLeft
+      | otherwise = AlignDefault
+
+extractTableRows :: [Text] -> Maybe ([Text], [Text])
+extractTableRows lines @_ : _ : _ =
+  let headerLine = head lines
+      alignmentLine = lines !! 1
+      dataLines = drop 2 lines
+      isValidTable =
+        isTableLine headerLine
+        && isTableLine alignmentLine
+        && all isTableLine (take (length dataLines) dataLines)
+  in if isValidTable
+    then Just (lines, [])
+    else Nothing
+extractTableRows _ = Nothing
+
+parseTable :: [Text] -> (MDElement, [Text])
+parseTable lines =
+  let headerLine = head lines
+      alignmentLine = lines !! 1
+      dataLines = drop 2 lines
+
+      headers =
+        map parseInlineCellContent $
+          filter (not . T.null) $
+            tail $
+              init $
+                T.splitOn (T.pack "|") (T.strip headerLine)
+      alignments = parseTableAlignmentLine alignmentLine
+
+      rows = map parseTableRow $ take (length dataLines) $ dropWhile
+        (not . isTableLine) dataLines
+
+      remainingLines = drop (length rows + 2) lines
+  in (Table headers alignments rows, remainingLines)

```

```

+ where
+
+     parseTableRow line =
+         map parseInlineCellContent $
+             filter (not . T.null) $
+                 tail $
+                     init $
+                         T.splitOn (T.pack "|") (T.strip line)
+
+     parseInlineCellContent cell =
+         let trimmedCell = T.strip cell
+             in if T.null trimmedCell
+                 then PlainText T.empty
+                 else case parseInline trimmedCell of
+                     [] -> PlainText T.empty
+                     [x] -> x -- If only one element, return it directly
+                     xs -> Paragraph xs -- If multiple elements, wrap in
Paragraph
+
+parseMarkdown :: [Text] -> [MDElement]
+parseMarkdown = parseLines [] . skipEmptyLines
+
+parseLines :: [Text] -> [Text] -> [MDElement]
+parseLines acc [] = processBlock (reverse acc)
+parseLines acc (line : lines)
+ | isCodeBlockStart line =
+     let (codeBlock, rest) = parseCodeBlock (line : lines)
+     in processBlock (reverse acc) ++ [codeBlock] ++ parseLines []
rest
+ | isTableLine line =
+     case identifyTable (line : lines) of
+         Just (tableLines, rest) ->
+             let (parsedTable, _) = parseTable tableLines
+             in processBlock (reverse acc) ++ [parsedTable] ++ parseLines []
[] rest
+         Nothing -> parseLines (line : acc) lines
+ | T.null line = processBlock (reverse acc) ++ parseLines []
(skipEmptyLines lines)
+ | isLabReportLine line =

```

```

+      case parseLabReport line of
+          Just labReport -> processBlock (reverse acc) ++ [labReport]
++ parseLines [] lines
+          Nothing -> parseLines (line : acc) lines
+ | isListLine line =
+     let (listItems, rest) = extractListItems (line : lines)
+         parsedLists = parseNestedLists listItems
+     in processBlock (reverse acc) ++ parsedLists ++ parseLines []
rest
+ | isHeaderLine line = processBlock (reverse acc) ++ [parseHeader
line] ++ parseLines [] lines
+ | isHorizontalRule line = processBlock (reverse acc) ++
[HorizontalRule] ++ parseLines [] lines
+ | otherwise = case parseUnderlineHeader (line : lines) of
+     Just (header, rest) -> processBlock (reverse acc) ++ [header]
++ parseLines [] rest
+     Nothing -> parseLines (line : acc) lines
+
+-- Helper function to get level of nesting based on indentation
+getIndentLevel :: Text -> Int
+getIndentLevel line =
+  let spaces = T.length $ T.takeWhile isSpace line
+  in spaces `div` 4 + T.length (T.takeWhile (== '\t') line)
+
+-- Check if the line is a list item (ordered or unordered)
+isListLine :: Text -> Bool
+isListLine line =
+  let stripped = T.stripStart line
+  in isOrderedListLine stripped || isUnorderedListLine stripped
+
+-- Check if the line is an ordered list item
+isOrderedListLine :: Text -> Bool
+isOrderedListLine line =
+  case T.uncons line of
+    Just (c, rest) | isDigit c ->
+      case T.stripPrefix (T.takeWhile isDigit line) line of
+        Just rest' -> isJust (T.stripPrefix (T.pack ". ") rest')
+        Nothing -> False

```

```

+      _ -> False
+
+--- Check if the line is an unordered list item
+isUnorderedListLine :: Text -> Bool
+isUnorderedListLine line =
+  case T.uncons line of
+    Just (c, rest)
+      | c `elem` ['*', '-', '+'] ->
+          T.stripPrefix (T.singleton c) line == Just (T.cons ' '
+            (T.stripStart rest))
+      _ -> False
+
+--- Extract list items, considering indentation for nested lists
+extractListItems :: [Text] -> ([Text], [Text])
+extractListItems = span (\line -> isListLine line || (not (T.null
+line) && getIndentLevel line > 0))
+
+parseListContext :: Text -> ListContext
+parseListContext line =
+  let level = getIndentLevel line
+    cleaned = T.stripStart line
+    listType = if isOrderedListLine cleaned then Ordered else
+      Unordered
+    -- Extract content after the list marker
+    content = T.strip $ T.dropWhile (\c -> isDigit c || c `elem` [
+      '*', '-', '+', '.', ' ']) cleaned
+    -- Parse the content for inline markdown
+    parsedContent = parseInline content
+  in ListContext level content listType []
+
+groupByTopLevel :: [ListContext] -> [[ListContext]]
+groupByTopLevel [] = []
+groupByTopLevel (x : xs) =
+  let (group, rest) = span (\item -> indentLevel item >= indentLevel
+    x) xs
+    nestedGroups = groupListsByLevel (x : group)
+  in nestedGroups : groupByTopLevel rest
+

```

```

+groupListsByLevel :: [ListContext] -> [ListContext]
+groupListsByLevel [] = []
+groupListsByLevel (x : xs) =
+  let currentLevel = indentLevel x
+    (children, rest) = span (\item -> indentLevel item > currentLevel) xs
+    nestedChildren = ([constructListElement (groupListsByLevel children) | not (null children)])
+    updatedContext = x {children = nestedChildren}
+  in updatedContext : groupListsByLevel rest
+
+constructListElement :: [ListContext] -> MDElement
+constructListElement [] = UnorderedList [] -- Fallback
+constructListElement contexts@(x : _) =
+  let listItems = map makeListItem contexts
+  in case listType x of
+    Ordered -> OrderedList listItems
+    Unordered -> UnorderedList listItems
+  where
+    makeListItem ctx =
+      -- Parse the content for inline markdown instead of wrapping in PlainText
+      ListItem (processInlineContent $ content ctx) (children ctx)
+
+-- Helper function to process inline content for list items
+processInlineContent :: Text -> MDElement
+processInlineContent text =
+  case parseInline text of
+    [single] -> single
+    multiple -> Paragraph multiple
+
+-- Parse nested lists with different markers
+parseNestedLists :: [Text] -> [MDElement]
+parseNestedLists items =
+  let contexts = map parseListContext items
+  grouped = groupByTopLevel contexts
+  in map constructListElement grouped

```

```

+ where
+
+     parseListContext line =
+         let level = getIndentLevel line
+             cleaned = T.stripStart line
+             listType = if isOrderedListLine cleaned then Ordered else
+ Unordered
+                 content = T.strip $ T.dropWhile (\c -> isDigit c || c
`elem` ['*', '-', '+', '.', ' ']) cleaned
+             in ListContext level content listType []
+
+-- Group and parse list items
+parseListGroups :: [Text] -> ([MDElement], [MDElement])
+parseListGroups items =
+    let groupedLists = groupListItems items
+        parsedOrdered = map parseOrderedList (filter isOrderedListGroup
groupedLists)
+            parsedUnordered = map parseUnorderedList (filter
isUnorderedListGroup groupedLists)
+        in (parsedOrdered, parsedUnordered)
+
+-- Group list items by their indentation and marker type
+groupListItems :: [Text] -> [[Text]]
+groupListItems [] = []
+groupListItems (x : xs) =
+    let (currentGroup, rest) = span (isListWithSameMarker x) (x : xs)
+    in currentGroup : groupListItems rest
+
+isListWithSameMarker :: Text -> Text -> Bool
+isListWithSameMarker firstItem item =
+    (isOrderedListLine firstItem && isOrderedListLine item)
+    || (isUnorderedListLine firstItem && isUnorderedListLine item)
+
+-- Get the indentation level of a list item
+getListIndent :: Text -> Int
+getListIndent line = T.length (T.takeWhile isSpace line)
+
+-- Check if a group is an ordered list group
+isOrderedListGroup :: [Text] -> Bool

```

```

+isOrderedListGroup (x : _) = isOrderedListLine x
+isOrderedListGroup _ = False
+
+--- Check if a group is an unordered list group
+isUnorderedListGroup :: [Text] -> Bool
+isUnorderedListGroup (x : _) = isUnorderedListLine x
+isUnorderedListGroup _ = False
+
+--- Parse an ordered list, supporting nested structures
+parseOrderedList :: [Text] -> MDElement
+parseOrderedList items =
+  OrderedList $ map parseListItem items
+
+--- Parse an unordered list, supporting nested structures
+parseUnorderedList :: [Text] -> MDElement
+parseUnorderedList items =
+  UnorderedList $ map parseListItem items
+
+--- Parse a single list item, handling nested content
+parseListItem :: Text -> MDElement
+parseListItem line =
+  let cleanedLine = T.strip $ T.dropWhile (\c -> isDigit c || c `elem` ['*', '-', '+'] || isSpace c) line
+  in ListItem (PlainText cleanedLine) []
+
+skipEmptyLines :: [Text] -> [Text]
+skipEmptyLines = dropWhile T.null
+
+isHeaderLine :: Text -> Bool
+isHeaderLine line = not (T.null line) && T.head line == '#'
+
+isHorizontalRule :: Text -> Bool
+isHorizontalRule line =
+  let trimmed = T.strip line
+  in T.length trimmed >= 3
+    && ( T.all (== '*') trimmed
+        || T.all (== '-') trimmed

```

```

+           || T.all (== '_') trimmed
+
+)
+
+parseHeader :: Text -> MDElement
+parseHeader line =
+  let level = min 6 $ T.length $ T.takeWhile (== '#') line
+  text = T.strip $ T.dropWhile (== '#') line
+  cleanText = T.strip $ T.takeWhile (/= '#') text
+  headerId = makeHeaderId cleanText
+  mdElementsText = parseInline cleanText
+  in Header level mdElementsText headerId
+
+parseUnderlineHeader :: [Text] -> Maybe (MDElement, [Text])
+parseUnderlineHeader (line1 : line2 : rest)
+  | not (T.null line1) && not (T.null line2) && T.all (== '=') (T.strip line2) =
+    let cleanText = T.strip line1
+        headerId = makeHeaderId cleanText
+        mdElementsText = parseInline cleanText
+        in Just (Header 1 mdElementsText headerId, rest)
+  | not (T.null line1) && not (T.null line2) && T.all (== '-') (T.strip line2) =
+    let cleanText = T.strip line1
+        headerId = makeHeaderId cleanText
+        mdElementsText = parseInline cleanText
+        in Just (Header 2 mdElementsText headerId, rest)
+  | otherwise = Nothing
+parseUnderlineHeader _ = Nothing
+
+makeHeaderId :: Text -> Text
+makeHeaderId = generateHashId
+
+generateHashId :: Text -> Text
+generateHashId text =
+  let hashed = hash (encodeUtf8 text) :: Digest MD5
+  in T.pack (show hashed)
+

```

```

+processBlock :: [Text] -> [MDElement]
+processBlock [] = []
+processBlock lines =
+    [Paragraph (concatMap processLineForParagraph $ addSpaceBetweenLines lines)]
+  where
+    addSpaceBetweenLines :: [Text] -> [Text]
+    addSpaceBetweenLines [] = []
+    addSpaceBetweenLines [x] = [x]
+    addSpaceBetweenLines (x : xs) = x : map (T.append (T.singleton ' ')) xs
+
+processLineForParagraph :: Text -> [MDElement]
+processLineForParagraph line = case processLine line of
+  [] -> []
+  elems -> concatMap processElement elems
+
+processElement :: MDElement -> [MDElement]
+processElement (PlainText t) = parseInline t
+processElement LineBreak = [LineBreak]
+processElement other = [other]
+
+processLine :: Text -> [MDElement]
+processLine line
+  | T.null line = []
+  | T.isSuffixOf (T.pack " ") line = [PlainText (T.dropEnd 2 line), LineBreak]
+  | T.isSuffixOf (T.pack "\\") line = [PlainText (T.dropEnd 1 line), LineBreak]
+  | otherwise = case T.breakOn (T.pack "<br>") line of
+      (before, after)
+        | T.null after -> [PlainText line]
+        | otherwise -> [PlainText before, LineBreak] ++ processLine (T.drop 4 after)
+
+-- Parse inline text with nested decorations
+parseInline :: Text -> [MDElement]
+parseInline text

```

```

+ | T.null text = []
+ | otherwise =
+   case T.uncons text of
+     Just ('`', _) -> parseInlineCode text
+     Just ('[', _) -> parseLinkOrCheckbox text
+     Just ('*', _) -> parseDecoration '*' text
+     Just ('_', _) -> parseDecoration '_' text
+     Just ('!', rest) -> parseImage rest
+     Just ('~', _) -> parseStrikethrough text
+     Just ('<', _) ->
+       if T.isPrefixOf (T.pack "<u>") text || T.isPrefixOf (T.pack
+ "AndWaitForInput") text
+         then parseHtmlTags text
+         else parseAngleBracketLink text
+       _ -> parsePlainText text
+
+parseLinkOrCheckbox :: Text -> [MDElement]
+parseLinkOrCheckbox text
+ | T.isPrefixOf (T.pack "[x]") text || T.isPrefixOf (T.pack "[ ]")
text =
+   parseCheckbox text
+ | T.isPrefixOf (T.pack "[") text =
+   parseBracketLink text
+ | otherwise = parsePlainText text
+
+parseBracketLink :: Text -> [MDElement]
+parseBracketLink text =
+ let (linkText, afterText) = parseLinkText text
+   (url, title, remaining) = parseLinkUrlAndTitle afterText
+ in case parseInline linkText of
+   [] -> Link url url Nothing : parseInline remaining
+   [PlainText t] -> Link t url title : parseInline remaining
+   multipleElems ->
+     let renderedText = T.concat $ map renderPlainText
multipleElems
+     in Link renderedText url title : parseInline remaining
+

```

```

+parseLinkText :: Text -> (Text, Text)
+parseLinkText t =
+  let linkTextStart = T.tail $ T.takeWhile (/= ']') t
+    remaining = T.drop (T.length linkTextStart + 2) t
+  in (linkTextStart, remaining)
+
+parseLinkUrlAndTitle :: Text -> (Text, Maybe Text, Text)
+parseLinkUrlAndTitle t
+  | T.isPrefixOf (T.pack "(") t =
+    let urlAndRest = T.tail t
+      (rawUrlAndTitle, afterUrlAndTitle) = T.break (== ')')
urlAndRest
+      parts = splitUrlAndTitle rawUrlAndTitle
+      in case parts of
+        (url, title) ->
+          let cleanUrl = T.strip url
+              cleanTitle = fmap (unescapeTitle . T.strip) title
+            in (cleanUrl, cleanTitle, T.drop 1 afterUrlAndTitle)
+  | otherwise = (T.pack "", Nothing, t)
+
+splitUrlAndTitle :: Text -> (Text, Maybe Text)
+splitUrlAndTitle text =
+  let stripped = T.strip text
+    (urlPart, maybeTitlePart) =
+      if T.isSuffixOf (T.pack "\"") stripped && T.count (T.pack "\"") stripped >= 2
+        then
+          let reversedText = T.reverse stripped
+            (reversedTitle, reversedRest) = T.break (== '') (T.tail reversedText)
+            in (T.reverse (T.tail reversedRest),
+                Just $ T.reverse reversedTitle
+            )
+        else (stripped, Nothing)
+  in (urlPart, maybeTitlePart)
+
+unescapeTitle :: Text -> Text

```

```

+unescapeTitle =
+  T.replace (T.pack """) (T.pack "\\\"")
+    . T.replace (T.pack "&") (T.pack "&")
+    . T.replace (T.pack "<") (T.pack "<")
+    . T.replace (T.pack ">") (T.pack ">")
+
+parseAngleBracketLink :: Text -> [MDElement]
+parseAngleBracketLink text
+  | T.isPrefixOf (T.pack "<") text && T.isSuffixOf (T.pack ">") text
= 
+    let link = T.init $ T.tail text
+        cleanLink = T.strip link
+        in Link cleanLink cleanLink Nothing : parseInline (T.drop (T.length link + 2) text)
+  | otherwise = [PlainText text]
+
+renderPlainText :: MDElement -> Text
+renderPlainText (PlainText t) = t
+renderPlainText (Bold t) = t
+renderPlainText (Italic t) = t
+renderPlainText (BoldItalic t) = t
+renderPlainText (Paragraph elems) = T.concat $ map renderPlainText elems
+renderPlainText _ = T.empty
+
+parseCheckbox :: Text -> [MDElement]
+parseCheckbox text
+  | T.isPrefixOf (T.pack "[x]") text || T.isPrefixOf (T.pack "[X]") text =
+    let content = T.strip $ T.drop 3 text
+        parsedContent = parseInline content
+        in [Checkbox True parsedContent]
+  | T.isPrefixOf (T.pack "[ ]") text =
+    let content = T.strip $ T.drop 3 text
+        parsedContent = parseInline content
+        in [Checkbox False parsedContent]
+  | otherwise = parsePlainText text
+

```

```

+parseImage :: Text -> [MDElement]
+parseImage text
+ | T.isPrefixOf (T.pack "[") text =
+     let (altText, afterAltText) = parseLinkText text
+         (url, title, remaining) = parseLinkUrlAndTitle afterAltText
+         in Image altText url (fromMaybe T.empty title) : parseInline
remaining
+ | otherwise = [PlainText $ T.cons '!' text]
+ where
+     parseLinkText :: Text -> (Text, Text)
+     parseLinkText t =
+         let linkTextStart = T.tail $ T.takeWhile (/= ']') t
+             remaining = T.drop (T.length linkTextStart + 2) t
+             in (linkTextStart, remaining)
+
+--- Handle decorations like *, **, *** or -, --, ---
+parseDecoration :: Char -> Text -> [MDElement]
+parseDecoration char text
+ | T.isPrefixOf (T.pack [char, char, char]) text =
+     let (content, rest) = T.breakOn (T.pack [char, char, char])
(T.drop 3 text)
+         in if T.isPrefixOf (T.pack [char, char, char]) rest
+             then BoldItalic (T.strip content) : parseInline (T.drop
3 rest)
+             else PlainText (T.pack [char, char, char]) : parseInline
(T.drop 3 text)
+ | T.isPrefixOf (T.pack [char, char]) text =
+     let (content, rest) = T.breakOn (T.pack [char, char]) (T.drop
2 text)
+         in if T.isPrefixOf (T.pack [char, char]) rest
+             then Bold (T.strip content) : parseInline (T.drop 2 rest)
+             else PlainText (T.pack [char, char]) : parseInline (T.drop
2 text)
+ | T.isPrefixOf (T.pack [char]) text =
+     let (content, rest) = T.breakOn (T.pack [char]) (T.drop 1 text)
+         in if T.isPrefixOf (T.pack [char]) rest
+             then Italic (T.strip content) : parseInline (T.drop 1
rest)

```

```

+           else PlainText (T.pack [char]) : parseInline (T.drop 1
text)
+   | otherwise = [PlainText text]
+
+--- Handle ~~strikethrough~~
+parseStrikethrough :: Text -> [MDElement]
+parseStrikethrough text
+  | T.isPrefixOf (T.pack "~~") text =
+    let (content, rest) = T.breakOn (T.pack "~~") (T.drop 2 text)
+    in if T.isPrefixOf (T.pack "~~") rest
+      then Strikethrough (T.strip content) : parseInline (T.drop
2 rest)
+      else PlainText (T.pack "~~") : parseInline (T.drop 2
text)
+  | otherwise = [PlainText text]
+
+--- Parse <u>...</u>
+parseHtmlTags :: Text -> [MDElement]
+parseHtmlTags text
+  | T.isPrefixOf (T.pack "<u>") text =
+    let (content, rest) = T.breakOn (T.pack "</u>") (T.drop 3 text)
+    in if T.isPrefixOf (T.pack "</u>") rest
+      then Underlined (T.strip content) : parseInline (T.drop
4 rest)
+      else PlainText (T.pack "<u>") : parseInline (T.drop 3
text)
+  | otherwise = [PlainText text]
+
+--- Handle plain text until a special character
+parsePlainText :: Text -> [MDElement]
+parsePlainText text =
+  let (content, rest) = T.break ('elem' ['*', '_', '~', '<', '!', '[', ']']) text
+  in PlainText content : parseInline rest
+
+isCodeBlockStart :: Text -> Bool
+isCodeBlockStart line =
+  T.isPrefixOf (T.pack "```") (T.stripStart line)

```

```

+
+parseCodeBlock :: [Text] -> (MDElement, [Text])
+parseCodeBlock (firstLine : rest) =
+  let lang = T.strip $ T.drop 3 $ T.stripStart firstLine
+      (codeLines, remainingLines) = Prelude.break isCodeBlockStart
rest
+      codeBlockContent = T.unlines codeLines
+      in (CodeBlock codeBlockContent, drop 1 remainingLines)
+parseCodeBlock _ = (CodeBlock T.empty, [])
+
+parseInlineCode :: Text -> [MDElement]
+parseInlineCode text
+  | T.isPrefixOf (T.pack "```") text =
+    let (content, rest) = T.breakOn (T.pack "```") (T.drop 3 text)
+    in if T.isPrefixOf (T.pack "```") rest
+       then InlineCode (T.strip content) : parseInline (T.drop
3 rest)
+       else PlainText (T.pack "```") : parseInline (T.drop 2
text)
+  | T.isPrefixOf (T.pack "") text =
+    let (content, rest) = T.breakOn (T.pack "") (T.drop 1 text)
+    in if T.isPrefixOf (T.pack "") rest
+       then InlineCode (T.strip content) : parseInline (T.drop
1 rest)
+       else PlainText (T.pack "") : parseInline (T.drop 1 text)
+  | otherwise = [PlainText text]
+
+isLabReportLine :: Text -> Bool
+isLabReportLine line = T.isPrefixOf (T.pack "!![") line &&
T.isSuffixOf (T.pack "]") line
+
+parseLabReport :: Text -> Maybe MDElement
+parseLabReport line = do
+  content <- T.stripPrefix (T.pack "!![") line
+  content <- return $ T.dropEnd 1 content
+  let parts = map T.strip $ T.splitOn (T.pack ",") content
+  let studentsPart = parts !! 4

```

```

+  students <- case T.stripPrefix (T.pack "(") studentsPart >>
T.stripSuffix (T.pack ")") of
+    Just studentsStr -> Just $ map T.strip $ T.splitOn (T.pack ";")
studentsStr
+    Nothing -> Nothing
+
+  return $
+  LabReport
+  LabReportInfo
+    { university = head parts,
+      labName = parts !! 1,
+      discipline = parts !! 2,
+      groupName = parts !! 3,
+      students = students,
+      teacher = parts !! 5,
+      city = parts !! 6,
+      year = parts !! 7
+    }
diff --git a/parser/Types.hs b/parser/Types.hs
new file mode 100644
index 0000000..149b1fc
--- /dev/null
+++ b/parser/Types.hs
@@ -0,0 +1,58 @@
+module Types
+  ( MDElement(..),
+    TableAlignment(..),
+    LabReportInfo(..),
+  )
+where
+
+import Data.Text (Text)
+
+data LabReportInfo = LabReportInfo
+  { university :: Text,
+    labName :: Text,
+    discipline :: Text,

```

```

+   groupName :: Text,
+   students :: [Text],
+   teacher :: Text,
+   city :: Text,
+   year :: Text
+
+ }
+
+ deriving (Show, Eq)
+
+
+data TableAlignment
+ = AlignLeft
+ | AlignCenter
+ | AlignRight
+ | AlignDefault
+
+ deriving (Show, Eq)
+
+
+data MDElement
+ = Paragraph [MDElement]
+ | PlainText Text
+ | Header Int [MDElement] Text
+ | Bold Text
+ | Italic Text
+ | BoldItalic Text
+ | Strikethrough Text
+ | Underlined Text
+ | LineBreak
+ | LabReport LabReportInfo
+ | HorizontalRule
+ | Link
+
+     { linkText :: Text,
+       linkUrl :: Text,
+       linkTitle :: Maybe Text
+
+     }
+
+ | Image Text Text Text
+ | UnorderedList [MDElement]
+ | OrderedList [MDElement]
+ | ListItem MDElement [MDElement]

```

```

+ | CodeBlock Text
+ | InlineCode Text
+ | Checkbox Bool [MDElement]
+ | Table
+   { headers :: [MDElement],
+     alignments :: [TableAlignment],
+     rows :: [[MDElement]]
+   }
+ deriving (Show, Eq)

```

## Коммит 91793eb

```

commit 91793eb2d30172ab6c2b6c59c0210390e086942a
Author: ta4ilka69 <artem_balin_2004@mail.ru>
Date:   Thu Nov 20 16:52:34 2025 +0300

```

move parser build to docker too

```

diff --git a/.docker/docker-compose.yaml b/.docker/docker-
compose.yaml
index 9409061..efad857 100644
--- a/.docker/docker-compose.yaml
+++ b/.docker/docker-compose.yaml
@@ -12,7 +12,7 @@ services:
    - ./InitDatabase:/docker-entrypoint-initdb.d
    - .:/var/lib/postgresql/data
    ports:
-      - "5432:5432"
+      - "5433:5432"
    healthcheck:
        test: ["CMD-SHELL", "pg_isready -U postgres -d postgres"]
        interval: 10s
@@ -102,8 +102,9 @@ services:
    backend:
        container_name: backend
        build:
-          context: ../backend
-          dockerfile: Dockerfile

```

```

+      # Контекст – корень репозитория, чтобы в сборке были доступны
+ и backend, и parser
+      context: ..
+      dockerfile: backend/Dockerfile
environment:
    PORT: "5252"
    POSTGRES_NAME: "postgres"
@@ -111,10 +112,10 @@ services:
    POSTGRES_PASSWORD: "pgpwd"
    SPRING_DATASOURCE_URL:
"jdbc:postgresql://postgres:5432/postgres"
    JWT_SECRET: "dev-secret"
-      APP_EXTERNAL_MARKDOWN_PARSER_PATH: "/opt/app/parser.exe"
+      # Явно указываем путь к собранному Linux-бинарнику парсера
+ внутри контейнера
+      APP_EXTERNAL_MARKDOWN_PARSER_PATH: "/opt/app/parser"
volumes:
    - ./backend/logs:/opt/app/logs
-    - ./backend/parser.exe:/opt/app/parser.exe
ports:
    - "5252:5252"
depends_on:
diff --git a/backend/Dockerfile b/backend/Dockerfile
index 0efa77..6be94dc 100644
--- a/backend/Dockerfile
+++ b/backend/Dockerfile
@@ -1,8 +1,20 @@
+FROM haskell:latest AS parser-build
+WORKDIR /parser
+
+## Устанавливаем зависимость cryptonite, которая нужна для Crypto.Hash
+RUN cabal update && cabal install cryptonite --lib
+
+## Копируем исходники парсера (контекст сборки будет корень
+репозитория)
+COPY parser/*.hs ./
+

```

```

+# Собираем бинарник парсера (явно подключаем скрытые пакеты text и
+bytestring)
+RUN ghc -O2 -threaded -rtsopts "-with-rtsopts=-N" -package cryptonite
-package text -package bytestring -o parser Main.hs
+
FROM maven:3.9.9-eclipse-temurin-17 AS build
WORKDIR /workspace

-COPY pom.xml .
-COPY src ./src
+COPY backend/pom.xml .
+COPY backend/src ./src

RUN --mount=type=cache,target=/root/.m2 mvn -q -DskipTests package

@@ -10,8 +22,10 @@ FROM eclipse-temurin:17-jre
WORKDIR /opt/app

COPY --from=build      /workspace/target/GuitarMatchIS-0.0.1.jar
/opt/app/app.jar
-COPY docker/entrypoint.sh /opt/app/entrypoint.sh
-RUN chmod +x /opt/app/entrypoint.sh
+COPY --from=parser-build /parser/parser /opt/app/parser
+COPY backend/docker/entrypoint.sh /opt/app/entrypoint.sh
+# Конвертируем CRLF→LF (если файл пришёл из Windows) и делаем скрипт
исполняемым
+RUN sed -i 's/\r$//' /opt/app/entrypoint.sh && chmod +x
/opt/app/entrypoint.sh

EXPOSE 5252
ENV PORT=5252
diff          --git           a/backend/docker/entrypoint.sh
b/backend/docker/entrypoint.sh
index c225904..4a32cf 100644
--- a/backend/docker/entrypoint.sh
+++ b/backend/docker/entrypoint.sh
@@ -1,10 +1,8 @@
#!/bin/sh

```

```

set -e

-if [ -f "/opt/app/parser.exe" ]; then
-  chmod +x /opt/app/parser.exe || true
+if [ -f "/opt/app/parser" ]; then
+  chmod +x /opt/app/parser || true
fi

exec java -jar /opt/app/app.jar
-
-
diff --git a/backend/parser.exe b/backend/parser.exe
deleted file mode 100644
index c97c9e0..0000000
Binary files a/backend/parser.exe and /dev/null differ
diff --git a/backend/src/main/resources/application.properties
b/backend/src/main/resources/application.properties
index 7568c8e..a2922a5 100644
--- a/backend/src/main/resources/application.properties
+++ b/backend/src/main/resources/application.properties
@@ -27,9 +27,9 @@ app.messaging.articles-topic=articles
app.external.markdown-parser.path=${user.dir}/parser

#logging
-
logging.level.org.springframework.web=${LOGGING_LEVEL_SPRING_WEB:TRA
CE}
-
logging.level.org.hibernate.SQL=${LOGGING_LEVEL_HIBERNATE_SQL:DEBUG}
-
logging.level.org.hibernate.type.descriptor.sql.BasicBinder=${LOGGIN
G_LEVEL_HIBERNATE_BINDER:TRACE}
+logging.level.org.springframework.web=${LOGGING_LEVEL_SPRING_WEB:IN
FO}
+logging.level.org.hibernate.SQL=${LOGGING_LEVEL_HIBERNATE_SQL:INFO}
+logging.level.org.hibernate.type.descriptor.sql.BasicBinder=${LOGGI
NG_LEVEL_HIBERNATE_BINDER:INFO}

# Actuator & Micrometer Prometheus

```

```

spring.application.name=GMatch-Backend
diff --git
a/backend/src/main/resources/db/migration/V1_0__create_migration.sql
b/backend/src/main/resources/db/migration/V1_0__create_migration.sql
index 3c1ddfc..b8285c9 100644
---
a/backend/src/main/resources/db/migration/V1_0__create_migration.sql
+++ b/backend/src/main/resources/db/migration/V1_0__create_migration.sql
@@ -644,4 +644,4 @@ $$ LANGUAGE plpgsql;

UPDATE app_user
SET is_admin = TRUE
-WHERE username = 'userTest';
+WHERE username = 'admin';
\ No newline at end of file

```

## Добавление Snyk и Spotbugs для выявления уязвимостей

Добавили Snyk для проверки зависимостей на уязвимости. Если в нашем проекте используется зависимость, в которой есть уязвимость, мы узнаем об этом в упавшей CI job. Spotbugs выявляет уязвимости в самом коде.

Коммиты: [1](#), [2](#), [3](#), [4](#), [5](#), [6](#)

### Коммит c9043f9

```

commit c9043f91266f7901b1d4a419faf565b096435214
Author: ta4ilka69 <artem_balin_2004@mail.ru>
Date:   Thu Nov 20 14:42:03 2025 +0300

```

snyk and spotbugs for vulnerability reports in ci

```

diff --git a/.github/workflows/vulnerabilities.yml
b/.github/workflows/vulnerabilities.yml
new file mode 100644
index 0000000..a156794
--- /dev/null
+++ b/.github/workflows/vulnerabilities.yml
@@ -0,0 +1,68 @@

```

```
+name: vulnerabilities check
+
+on:
+  push:
+    branches: [ main ]
+  pull_request:
+    branches: [ main ]
+  workflow_dispatch:
+
+jobs:
+  build:
+    runs-on: ubuntu-latest
+    env:
+      SNYK_TOKEN: ${{ secrets.SNYK_TOKEN }}
+
+    steps:
+      - name: Checkout
+        uses: actions/checkout@v4
+
+      - name: Set up JDK 17
+        uses: actions/setup-java@v4
+        with:
+          distribution: temurin
+          java-version: '17'
+
+      - name: Cache Maven packages
+        uses: actions/cache@v4
+        with:
+          path: |
+            ~/.m2/repository
+          key: ${{ runner.os }}-maven-${{ hashFiles('**/pom.xml') }}
+          restore-keys: |
+            ${{ runner.os }}-maven-
+
+      - name: Build + SpotBugs
+        run: cd ./backend && mvn -B verify -DskipTests
```

```

+
+      - name: Set up Snyk CLI
+        uses: snyk/actions/setup@master
+
+      - name: Snyk auth
+        env:
+          SNYK_TOKEN: ${{ secrets.SNYK_TOKEN }}
+        run: snyk auth "$SNYK_TOKEN"
+
+      - name: Run Snyk to check for vulnerabilities
+        working-directory: backend
+        run: |
+          chmod +x mvnw || true
+          snyk test --maven --file=pom.xml --json-file-output=../snyk-report.json --exclude-licenses
+
+      - name: Upload Snyk report
+        if: always()
+        uses: actions/upload-artifact@v4
+        with:
+          name: snyk-report
+          path: snyk-report.json
+          if-no-files-found: warn
+
+      - name: Upload SpotBugs report
+        if: always()
+        uses: actions/upload-artifact@v4
+        with:
+          name: spotbugs-report
+          path: |
+            **/target/spotbugsXml.xml
+            **/target/spotbugs-sarif.xml
+          if-no-files-found: warn
\ No newline at end of file
diff --git a/backend/pom.xml b/backend/pom.xml
index b0b02fc..1a56b4c 100644
--- a/backend/pom.xml

```

```

+++ b/backend/pom.xml
@@ -23,14 +23,14 @@
            <groupId>org.springframework.boot</groupId>
            <artifactId>spring-boot-starter-web</artifactId>
        </dependency>
-        <dependency>
-            <groupId>org.springframework.boot</groupId>
-            <artifactId>spring-boot-starter-actuator</artifactId>
-        </dependency>
-        <dependency>
-            <groupId>io.micrometer</groupId>
-            <artifactId>micrometer-registry-prometheus</artifactId>
-        </dependency>
+        <dependency>
+            <groupId>org.springframework.boot</groupId>
+            <artifactId>spring-boot-starter-actuator</artifactId>
+        </dependency>
+        <dependency>
+            <groupId>io.micrometer</groupId>
+            <artifactId>micrometer-registry-
prometheus</artifactId>
+        </dependency>
+        </dependency>
+        <!-- <dependency>
+            <groupId>org.hibernate</groupId>
+            <artifactId>hibernate-core</artifactId>
+        @@

-        </excludes>
-        </configuration>
-    </plugin>
+    <plugin>
+        <groupId>com.github.spotbugs</groupId>
+        <artifactId>spotbugs-maven-plugin</artifactId>
+        <version>4.8.6.5</version>
+        <configuration>
+            <effort>Max</effort>
+            <threshold>Low</threshold>
+            <xmlOutput>true</xmlOutput>

```

```
+             <failOn Error>false</failOn Error>
+
+         </configuration>
+
+         <executions>
+
+             <execution>
+
+                 <phase>verify</phase>
+
+                 <goals>
+
+                     <goal>spotbugs</goal>
+
+                 </goals>
+
+             </execution>
+
+         </executions>
+
+     </plugin>
+
+     <plugin>
+
+         <groupId>org.flywaydb</groupId>
+
+         <artifactId>flyway-maven-plugin</artifactId>
```

## Коммит 5d65799

```
commit 5d65799adf400659b2c992f2e80421176d329d80
Author: ta4ilka69 <artem_balin_2004@mail.ru>
Date:   Thu Nov 20 14:47:48 2025 +0300
```

```
fail on error true
```

```
diff --git a/backend/pom.xml b/backend/pom.xml
index 1a56b4c..b22ed2d 100644
--- a/backend/pom.xml
+++ b/backend/pom.xml
@@ -129,7 +129,7 @@
 
             <effort>Max</effort>
             <threshold>Low</threshold>
             <xmlOutput>true</xmlOutput>
-
             <failOn Error>false</failOn Error>
+
             <failOn Error>true</failOn Error>
 
         </configuration>
         <executions>
             <execution>
```

## Коммит b7ac67b

```
commit b7ac67b87b94a0b6da207961e3dd69440e7b408f
Author: ta4ilka69 <artem_balin_2004@mail.ru>
Date: Thu Nov 20 14:49:22 2025 +0300
```

update sportbugs version

```
diff --git a/backend/pom.xml b/backend/pom.xml
index b22ed2d..9845043 100644
--- a/backend/pom.xml
+++ b/backend/pom.xml
@@ -124,7 +124,7 @@
<plugin>
    <groupId>com.github.spotbugs</groupId>
    <artifactId>spotbugs-maven-plugin</artifactId>
-
    <version>4.8.6.5</version>
+
    <version>4.9.8.1</version>
    <configuration>
        <effort>Max</effort>
        <threshold>Low</threshold>
```

## Коммит d8cd4ab

```
commit d8cd4ab7c552e91c5f263d3276e5aa2ff71fc766
Author: ta4ilka69 <artem_balin_2004@mail.ru>
Date: Thu Nov 20 15:34:33 2025 +0300
```

ci in this tree too

```
diff --git a/.github/workflows/vulnerabilities.yml
b/.github/workflows/vulnerabilities.yml
index a156794..4c3711b 100644
--- a/.github/workflows/vulnerabilities.yml
+++ b/.github/workflows/vulnerabilities.yml
@@ -2,9 +2,9 @@ name: vulnerabilities check
```

on:

```
push:  
- branches: [ main ]  
+ branches: [ main, feat/part2, feat/part3 ]  
pull_request:  
- branches: [ main ]  
+ branches: [ main, feat/part2, feat/part3 ]  
workflow_dispatch:
```

jobs:

### Коммит c2192d2

```
commit c2192d21a04c3da7455ebc0c7c2ee0a85ed63f2e  
Author: Romariok <ronya-ko@yandex.ru>  
Date: Fri Nov 21 16:58:51 2025 +0300
```

Snyk report fix 1

```
diff --git a/backend/pom.xml b/backend/pom.xml  
index ae4603e..5a2c1a8 100644  
--- a/backend/pom.xml  
+++ b/backend/pom.xml  
@@ -105,6 +105,11 @@  
          <artifactId>springdoc-openapi-starter-webmvc-ui</artifactId>  
          <version>2.8.10</version>  
        </dependency>  
+      <dependency>  
+        <groupId>org.apache.commons</groupId>  
+        <artifactId>commons-lang3</artifactId>  
+        <version>3.18.0</version>  
+      </dependency>  
    </dependencies>
```

### Коммит 4133269

```
commit 413326984b3b54072c46bea7faa15f288aab4132  
Author: Romariok <ronya-ko@yandex.ru>  
Date: Fri Nov 21 17:27:26 2025 +0300
```

```

    set ci executing only for main and release branches

diff --git a/.github/workflows/ci.yml b/.github/workflows/ci.yml
index 27351fe..ccdbc5d 100644
--- a/.github/workflows/ci.yml
+++ b/.github/workflows/ci.yml
@@ -2,7 +2,13 @@ name: CI

on:
  push:
+    branches:
+      - main
+      - release
  pull_request:
+    branches:
+      - main
+      - release

permissions:
  contents: read
diff --git a/.github/workflows/release.yml b/.github/workflows/release.yml
index df160ee..e64f646 100644
--- a/.github/workflows/release.yml
+++ b/.github/workflows/release.yml
@@ -4,6 +4,9 @@ on:
  push:
    tags:
      - "v*"
+    branches:
+      - main
+      - release
  workflow_dispatch:

permissions:

```

## Исправление найденных уязвимостей

Конечно, мы не могли оставить наш проект с уязвимостями и упавшими CI job'ами, поэтому исправили их.

Коммиты: [1](#), [2](#)

### Коммит 362b272

```
commit 362b272b0b2fc9c0f606b53ca0d81fdf79d8a2dd
```

```
Author: Romariok <ronya-ko@yandex.ru>
```

```
Date: Fri Nov 21 16:43:30 2025 +0300
```

```
Resolved issues found using snyk and spotbugs
```

```
diff --git a/backend/pom.xml b/backend/pom.xml
index 9845043..ae4603e 100644
--- a/backend/pom.xml
+++ b/backend/pom.xml
@@ -6,7 +6,7 @@
<parent>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-parent</artifactId>
-   <version>3.3.4</version>
+   <version>3.4.11</version>
    <relativePath /> <!-- lookup parent from repository -->
</parent>
<groupId>itmo.is.cw</groupId>
@@ -39,6 +39,7 @@
<dependency>
    <groupId>org.postgresql</groupId>
    <artifactId>postgresql</artifactId>
+   <version>42.7.7</version>
    <scope>runtime</scope>
</dependency>
<dependency>
@@ -102,7 +103,7 @@
<dependency>
```

```

        <groupId>org.springdoc</groupId>
        <artifactId>springdoc-openapi-starter-webmvc-
ui</artifactId>
-
        <version>2.6.0</version>
+
        <version>2.8.10</version>
    </dependency>
</dependencies>

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/dto/AuthResponseDTO
.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/dto/AuthResponseDTO
.java
index 520b98b..7f5a3f2 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/dto/AuthResponseDTO
.java
+++ b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/dto/AuthResponseDTO
.java
@@ -11,7 +11,6 @@ public class AuthResponseDTO {
    private Integer subscriptions;
    private LocalDateTime createdAt;
    private String token;
-
    private final String tokenType = "Bearer ";
    public AuthResponseDTO(String username, Boolean isAdmin, Integer
subscriptions, LocalDateTime createdAt,
                           String token) {
@@ -21,4 +20,8 @@ public class AuthResponseDTO {
    this.createdAt = createdAt;
    this.token = token;
}
+
+    public String getTokenType() {
+        return "Bearer ";
+    }
}

\ No newline at end of file

```

```

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/User.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/User.java
index 1e3dabe..7b721e0 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/User.java
+++  

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/User.java
@@ -19,6 +19,7 @@ import jakarta.persistence.*;  

 @Setter  

 @Builder(toBuilder = true)  

 public class User implements UserDetails {  

+ private static final long serialVersionUID = 1L;  

 @Id  

 @GeneratedValue(strategy = GenerationType.IDENTITY)  

 private Long id;  

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/MusicianGenreId.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/MusicianGenreId.java
index f4f7882..5bc7edd 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/MusicianGenreId.java
+++  

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/MusicianGenreId.java
@@ -6,7 +6,8 @@ import itmo.is.cw.GuitarMatchIS.models.Genre;  

 import lombok.Data;  

  

 @Data  

-public class MusicianGenreId implements Serializable{  

+public class MusicianGenreId implements Serializable {  

+ private static final long serialVersionUID = 1L;  

 private Long musicianId;  

 private Genre genre;  

 }
diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/MusicianProductId.java

```

```

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nProductId.java
index dce4972..c0ea811 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nProductId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nProductId.java
@@ -6,6 +6,7 @@ import lombok.Data;

@Data
public class MusicianProductId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long musicianId;
    private Long productId;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nTypeOfMusicianId.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nTypeOfMusicianId.java
index fd478d1..b710d57 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nTypeOfMusicianId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Musicia
nTypeOfMusicianId.java
@@ -7,6 +7,7 @@ import lombok.Data;

@Data
public class MusicianTypeOfMusicianId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long musicianId;
    private TypeOfMusician typeOfMusician;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
ArticleId.java

```

```

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
ArticleId.java
index 013a8fe..920bcfb 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
ArticleId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
ArticleId.java
@@ -6,6 +6,7 @@ import lombok.Data;

@Data
public class ProductArticleId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long productId;
    private Long articleId;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
GenreId.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
GenreId.java
index b2365a2..657b5b6 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
GenreId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/Product
GenreId.java
@@ -7,6 +7,7 @@ import lombok.Data;

@Data
public class ProductGenreId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long productId;
    private Genre genre;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/ShopPro
ductId.java

```

```

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/ShopPro
ductId.java
index 2ff0012..bd14886 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/ShopPro
ductId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/ShopPro
ductId.java
@@ -6,6 +6,7 @@ import lombok.Data;

@Data
public class ShopProductId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long shopId;
    private Long productId;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserGen
reId.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserGen
reId.java
index d4c6c8b..71612fc 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserGen
reId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserGen
reId.java
@@ -6,7 +6,8 @@ import itmo.is.cw.GuitarMatchIS.models.Genre;
import lombok.Data;

@Data
-public class UserGenreId implements Serializable{
+public class UserGenreId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long userId;
    private Genre genre;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserMus

```

```

  icianId.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserMus
  icianId.java
index 1ff27d0..1f2e3e4 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserMus
  icianId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserMus
  icianId.java
@@ -6,6 +6,7 @@ import lombok.Data;

@Data
public class UserMusicianId implements Serializable {
+ private static final long serialVersionUID = 1L;
    private Long userId;
    private Long musicianId;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserPro
ductId.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserPro
ductId.java
index be41cf7..9148e80 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserPro
ductId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserPro
ductId.java
@@ -6,6 +6,7 @@ import lombok.Data;

@Data
public class UserProductId implements Serializable {
+ private static final long serialVersionUID = 1L;
    private Long userId;
    private Long productId;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserTyp
eOfMusicianId.java

```

```

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserTyp
eOfMusicianId.java
index 6645958..f03ee6c 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserTyp
eOfMusicianId.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/models/keys/UserTyp
eOfMusicianId.java
@@ -6,7 +6,8 @@ import
itmo.is.cw.GuitarMatchIS.models.TypeOfMusician;
import lombok.Data;

@Data
-public class UserTypeOfMusicianId implements Serializable{
+public class UserTypeOfMusicianId implements Serializable {
+    private static final long serialVersionUID = 1L;
    private Long userId;
    private TypeOfMusician typeOfMusician;
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ArticleServ
ice.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ArticleServ
ice.java
index 1702adc..2981035 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ArticleServ
ice.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ArticleServ
ice.java
@@ -1,6 +1,7 @@
package itmo.is.cw.GuitarMatchIS.service;

import java.io.BufferedReader;
+import java.io.IOException;
import java.io.InputStreamReader;
import java.nio.charset.StandardCharsets;
import java.time.LocalDateTime;
@@ -63,7 +64,8 @@ public class ArticleService {

```

```

    private String markdownParserPath;

    public List<ArticleDTO> getAcceptedArticles(int from, int size,
ArticleSort sortBy, boolean ascending) {
-      log.info("Fetching accepted articles from: {}, size: {}, sortBy: {}",
-              ascending: {}, from, size, sortBy, ascending);
+      log.info("Fetching accepted articles from: {}, size: {}, sortBy: {}",
+              ascending: {}, from, size, sortBy,
+                  ascending);

        Sort sort = Sort.by(ascending ? Sort.Direction.ASC :
Sort.Direction.DESC,
                    sortBy.getFieldName());

        Pageable page = PageRequest.of(from / size, size, sort);
@@ -93,12 +95,7 @@ public class ArticleService {
    return articles
        .stream()
        .map(this::convertToDTO)
-       .sorted(new Comparator<ArticleDTO>() {
-           @Override
-           public int compare(ArticleDTO o1, ArticleDTO o2) {
-               return o1.getId().compareTo(o2.getId());
-           }
-       })
+       .sorted(Comparator.comparing(ArticleDTO::getId))
        .toList();
}

@@ -111,18 +108,14 @@ public class ArticleService {
    return articles
        .stream()
        .map(this::convertToDTO)
-       .sorted(new Comparator<ArticleDTO>() {
-           @Override
-           public int compare(ArticleDTO o1, ArticleDTO o2) {
-               return o1.getId().compareTo(o2.getId());
-           }
-       })
+       .sorted(Comparator.comparing(ArticleDTO::getId))

```

```

        .toList();
    }

    public boolean moderateArticle(ModerateArticleDTO
moderateArticleDTO, HttpServletRequest request) {
        User moderator = findUserByRequest(request);
-        log.info("Moderating article with id: {} by user: {}", moderateArticleDTO.getArticleId(), moderator.getUsername());
+        log.info("Moderating article with id: {} by user: {}", moderateArticleDTO.getArticleId(),
+                moderator.getUsername());
        if (!moderator.getIsAdmin()) {
            log.warn("User {} has no rights to moderate article", moderator.getUsername());
            throw new ForbiddenException("User have no rights to moderate article");
@@ -197,12 +190,7 @@ public class ArticleService {
        return productArticles
            .stream()
            .map(this::convertToDTO)
-            .sorted(new Comparator<StatusArticlesDTO>() {
-                @Override
-                public int compare(StatusArticlesDTO o1,
StatusArticlesDTO o2) {
-                    return
o1.getProduct().getId().compareTo(o2.getProduct().getId());
-                }
-            })
+            .sorted(Comparator.comparing((StatusArticlesDTO dto) ->
dto.getProduct().getId()))
            .toList();
    }

@@ -312,8 +300,12 @@ public class ArticleService {
    }

    log.debug("Markdown successfully converted to HTML");
    return
CompletableFuture.completedFuture(output.toString());
-    } catch (Exception e) {

```

```

-
    log.error("Exception while converting markdown to html",
e);
+
    } catch (IOException e) {
+
        log.error("IO error while converting markdown to html", e);
+
        return CompletableFuture.completedFuture(markdownText); // Fallback to original text
+
    } catch (InterruptedException e) {
+
        Thread.currentThread().interrupt();
+
        log.error("Markdown to HTML conversion was interrupted",
e);
+
        return CompletableFuture.completedFuture(markdownText); // Fallback to original text
    }
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/BrandService.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/BrandService.java
index 74af02e..346e52e 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/BrandService.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/BrandService.java
@@ -34,12 +34,7 @@ public class BrandService {
            brand1.getCountry(),
            brand1.getWebsite(),
            brand1.getEmail()))
-
        .sorted(new Comparator<BrandDTO>() {
-
            @Override
-
            public int compare(BrandDTO o1, BrandDTO o2) {
-
                return o1.getId().compareTo(o2.getId());
-
            }
-
        })
+
        .sorted(Comparator.comparing(BrandDTO::getId))
        .toList();
}

```

```

@@ -54,10 +49,9 @@ public class BrandService {
    private BrandDTO convertToDTO(Brand brand) {
        return new BrandDTO(
            brand.getId(),
-           brand.getName(),
+           brand.getName(),
            brand.getCountry(),
            brand.getWebsite(),
-           brand.getEmail()
-      );
+           brand.getEmail());
    }
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/FeedbackService.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/FeedbackService.java
index c17d7e2..36578f2 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/FeedbackService.java
+++ 
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/FeedbackService.java
@@ -50,12 +50,7 @@ public class FeedbackService {
    return feedbacks
        .stream()
        .map(this::convertToDTO)
-       .sorted(new Comparator<FeedbackDTO>() {
-           @Override
-           public int compare(FeedbackDTO o1,
FeedbackDTO o2) {
-               return o1.getId().compareTo(o2.getId());
-           }
-       })
+       .sorted(Comparator.comparing(FeedbackDTO::getId))
        .toList();

```

```

    }

@@ -69,12 +64,7 @@ public class FeedbackService {
    return feedbacks
        .stream()
        .map(this::convertToDTO)
-       .sorted(new Comparator<FeedbackDTO>() {
-           @Override
-           public int compare(FeedbackDTO o1,
FeedbackDTO o2) {
-               return o1.getId().compareTo(o2.getId());
-           }
-       })
+       .sorted(Comparator.comparing(FeedbackDTO::getId))
        .toList();
}

@@ -83,9 +73,10 @@ public class FeedbackService {
    log.info("Adding feedback for product with id: {}", feedbackDTO.getProductId());
    Product product = productRepository.findById(feedbackDTO.getProductId())
        .orElseThrow(() -> {
-           log.warn("Product with id {} not found while adding feedback", feedbackDTO.getProductId());
+           log.warn("Product with id {} not found while adding feedback",
feedbackDTO.getProductId());
        });
        return new ProductNotFoundException(
-           String.format("Product with id %s not found", feedbackDTO.getProductId()));
+           String.format("Product with id %s not found", feedbackDTO.getProductId()));
    });

User user = findUserByRequest(request);
@@ -102,9 +93,10 @@ public class FeedbackService {
    log.info("Adding feedback for article with id: {}", feedbackDTO.getArticleId());

```

```

        Article           article
articleRepository.findById(feedbackDTO.getArticleId())
                .orElseThrow(() -> {
-
                    log.warn("Article with id {} not found
while adding feedback", feedbackDTO.getArticleId());
+
                    log.warn("Article with id {} not found
while adding feedback",
+
                    feedbackDTO.getArticleId());
-
                    return new ArticleNotFoundException(
                        String.format("Article with id
%s not found", feedbackDTO.getArticleId()));
+
                    String.format("Article with
id %s not found", feedbackDTO.getArticleId());
                });
}

User user = findUserByRequest(request);

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumPostSe
rvice.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumPostSe
rvice.java
index 0a52f7a..c9eab99 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumPostSe
rvice.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumPostSe
rvice.java
@@ -49,12 +49,7 @@ public class ForumPostService {
    return posts
        .stream()
        .map(this::convertToDTO)
-
        .sorted(new Comparator<ForumPostDTO>() {
-
            @Override
-
            public int compare(ForumPostDTO o1,
ForumPostDTO o2) {
-
                return o1.getId().compareTo(o2.getId());
-
            }
-
        })
+
        .sorted(Comparator.comparing(ForumPostDTO::getId))

```

```

        .toList();
    }

@@ -62,9 +57,11 @@ public class ForumPostService {
    log.info("Creating forum post for topic with id: {}", forumPostDTO.getForumTopicId());
    ForumTopic topic = forumTopicRepository.findById(forumPostDTO.getForumTopicId())
        .orElseThrow(() -> {
        - log.warn("Forum topic with id {} not found while creating post", forumPostDTO.getForumTopicId());
        + log.warn("Forum topic with id {} not found while creating post",
        + forumPostDTO.getForumTopicId());
        return new ForumTopicNotFoundException(
        - String.format("Forum topic with id %s not found", forumPostDTO.getForumTopicId());
        + String.format("Forum topic with id %s not found",
        + forumPostDTO.getForumTopicId()));
    });
    User author = findUserByRequest(request);
    log.info("Forum post author is {}", author.getUsername());
diff --git a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumTopicsService.java b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumTopicsService.java
index 2cfdb11d..c398ef4 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumTopicsService.java
+++ b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ForumTopicsService.java
@@ -45,12 +45,7 @@ public class ForumTopicService {
    return topics
        .stream()

```

```

        .map(this::convertToDTO)
-       .sorted(new Comparator<ForumTopicDTO>() {
-           @Override
-               public int compare(ForumTopicDTO o1, ForumTopicDTO
o2) {
-                   return o1.getId().compareTo(o2.getId());
-               }
-           })
+       .sorted(Comparator.comparing(ForumTopicDTO::getId))
        .toList();
    }

@@ -60,7 +55,7 @@ public class ForumTopicService {
        .orElseThrow(() -> {
            log.warn("User with id {} not found while fetching
forum topics", authorId);
            return new UserNotFoundException(
-                           String.format("User with id %s not found",
authorId));
+                           String.format("User with id %s not found",
authorId));
        });
}

Pageable pageable = Pagification.createPageTemplate(from,
size);
@@ -69,12 +64,7 @@ public class ForumTopicService {
    return topics
        .stream()
        .map(this::convertToDTO)
-       .sorted(new Comparator<ForumTopicDTO>() {
-           @Override
-               public int compare(ForumTopicDTO o1, ForumTopicDTO
o2) {
-                   return o1.getId().compareTo(o2.getId());
-               }
-           })
+       .sorted(Comparator.comparing(ForumTopicDTO::getId))
        .toList();

```

```

    }

@@ -85,7 +75,7 @@ public class ForumTopicService {
    .orElseThrow(() -> {
        log.warn("Forum topic with id {} not found while
closing", topicId);
        return new ForumTopicNotFoundException(
-
            String.format("Forum topic with id %s not found",
topicId));
+
            String.format("Forum topic with id %s not found",
topicId));
    });
}

User user = findUserByRequest(request);
@@ -151,7 +141,7 @@ public class ForumTopicService {
    .orElseThrow(() -> {
        log.warn("Forum topic with id {} not found while
checking ownership", topicId);
        return new ForumTopicNotFoundException(
-
            String.format("Forum topic with id %s not found",
topicId));
+
            String.format("Forum topic with id %s not found",
topicId));
    });
}

User user = findUserByRequest(request);
@@ -166,7 +156,7 @@ public class ForumTopicService {
    .orElseThrow(() -> {
        log.warn("Forum topic with id {} not found", topicId);
        return new ForumTopicNotFoundException(
-
            String.format("Forum topic with id %s not found",
topicId));
+
            String.format("Forum topic with id %s not found",
topicId));
    });
}

return convertToDTO(topic);
diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/MusicianSer

```

```

vice.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/MusicianSer
vice.java
index 0924e69..85fc21e 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/MusicianSer
vice.java
+++  

b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/MusicianSer
vice.java
@@ -67,16 +67,16 @@ public class MusicianService {

    public List<MusicianInfoDTO> getMusician(int from, int size,
MusicianSort sortBy, boolean ascending) {
        log.info("Fetching musicians from: {}, size: {}, sortBy: {}, ascending: {}", from, size, sortBy, ascending);
        -         Sort sort = Sort.by(ascending ? Sort.Direction.ASC : Sort.Direction.DESC,
        -                         sortBy.getFieldName());
        +         Sort sort = Sort.by(ascending ? Sort.Direction.ASC : Sort.Direction.DESC,
        +                         sortBy.getFieldName());
        Pageable page = PageRequest.of(from / size, size, sort);

        List<Musician>                               musicians
musicianRepository.findAll(page).getContent();
        return musicians
            .stream()
        -         .map(musician1 -> convertToDTO(musician1,
                musicianGenreRepository.findByMusician(musician1),
                -
                musicianTypeOfMusicianRepository.findByMusician(musician1),
        +         .map(musician1 -> convertToDTO(musician1,
        +             musicianGenreRepository.findByMusician(musician1),
        +
        +             musicianTypeOfMusicianRepository.findByMusician(musician1),
                musicianProductRepository.findByMusician(musician1)))
            .toList();
    }
@@ -84,10 +84,11 @@ public class MusicianService {

```

```

    public Boolean isSubscribed(Long musicianId, HttpServletRequest
request) {
        User user = findUserByRequest(request);
        log.info("Checking if user {} is subscribed to musician with
id: {}", user.getUsername(), musicianId);
-         return userMusicianRepository.existsByUserAndMusician(user,
musicianRepository.findById(musicianId).orElseThrow(() -> {
-             log.warn("Musician with id {} not found while checking
subscription", musicianId);
-             return new MusicianNotFoundException("Musician with id %s
not found".formatted(musicianId));
-         }));
+         return userMusicianRepository.existsByUserAndMusician(user,
+             musicianRepository.findById(musicianId).orElseThrow(() -> {
> {
+             log.warn("Musician with id {} not found while checking
subscription", musicianId);
+             return new MusicianNotFoundException("Musician with
id %s not found".formatted(musicianId));
+         }));
}
}

@Transactional
@@ -111,13 +112,15 @@ public class MusicianService {
}

for (TypeOfMusician typeOfMusician : createMusicianDTO.getTypesOfMusician()) {
-
musicianTypeOfMusicianRepository.saveByMusicianIdAndTypeOfMusician(m
usician.getId(), typeOfMusician.toString());
+
musicianTypeOfMusicianRepository.saveByMusicianIdAndTypeOfMusician(m
usician.getId(),
+             typeOfMusician.toString());
}

simpMessagingTemplate.convertAndSend("/musicians", "New
musician added");
log.info("Musician creation message sent to websocket");

```

```

-
                    return convertToDTOLists(musician,
createMusicianDTO.getGenres(),
createMusicianDTO.getTypesOfMusician(), new ArrayList<>());
+
                    return convertToDTOLists(musician,
createMusicianDTO.getGenres(),
createMusicianDTO.getTypesOfMusician(),
new ArrayList<>());
+
        new ArrayList<>();
    }

    public Boolean subscribeToMusician(SubscribeDTO subscribeDTO,
HttpServletRequest request) {
@@ -128,7 +131,7 @@ public class MusicianService {
        .orElseThrow(() -> {
            log.warn("Musician with id {} not found while
subscribing", subscribeDTO.getMusicianId());
            return new MusicianNotFoundException(
-
                        "Musician with id %s not
found".formatted(subscribeDTO.getMusicianId()));
+
                        "Musician with id %s not
found".formatted(subscribeDTO.getMusicianId()));
        });
        if (userMusicianRepository.existsByUserAndMusician(user,
musician)) {
            log.warn("User {} is already subscribed to musician {}",

user.getUsername(), musician.getName());
@@ -149,7 +152,7 @@ public class MusicianService {
        .orElseThrow(() -> {
            log.warn("Musician with id {} not found while
unsubscribing", subscribeDTO.getMusicianId());
            return new MusicianNotFoundException(
-
                        "Musician with id %s not
found".formatted(subscribeDTO.getMusicianId()));
+
                        "Musician with id %s not
found".formatted(subscribeDTO.getMusicianId()));
        });
        if (!userMusicianRepository.existsByUserAndMusician(user,
musician)) {
            log.warn("User {} is not subscribed to musician {}",

user.getUsername(), musician.getName());
@@ -168,16 +171,11 @@ public class MusicianService {

```

```

        return musicians
            .stream()
-           .map(musician1 -> convertToDTO(musician1,
-                                              musicianGenreRepository.findByMusician(musician1),
-
musicianTypeOfMusicianRepository.findByMusician(musician1),
+           .map(musician1 -> convertToDTO(musician1,
+                                              musicianGenreRepository.findByMusician(musician1),
+
musicianTypeOfMusicianRepository.findByMusician(musician1),
+
musicianProductRepository.findByMusician(musician1)))
-           .sorted(new Comparator<MusicianInfoDTO>() {
-
-               @Override
-
-               public int compare(MusicianInfoDTO o1, MusicianInfoDTO
o2) {
-
-                   return o1.getId().compareTo(o2.getId());
-
-               }
-
-           })
+           .sorted(Comparator.comparing(MusicianInfoDTO::getId))
.toList();
    }

@@ -234,15 +232,16 @@ public class MusicianService {
    .orElseThrow(() -> new MusicianNotFoundException(
        "Musician with id %s not found".formatted(musicianId)));

-
    return convertToDTO(musician,
        musicianGenreRepository.findByMusician(musician),
        musicianTypeOfMusicianRepository.findByMusician(musician),
+   return convertToDTO(musician,
+       musicianGenreRepository.findByMusician(musician),
+       musicianTypeOfMusicianRepository.findByMusician(musician),
+       musicianProductRepository.findByMusician(musician));
}

```

`@Transactional`

```

    public Boolean addProductToMusician(AddProductMusicianDTO
addProductMusicianDTO, HttpServletRequest request) {
-     log.info("Adding product with id {} to musician with name {}", 
addProductMusicianDTO.getProductId(),
addProductMusicianDTO.getMusicianName());
+     log.info("Adding product with id {} to musician with name {}", 
addProductMusicianDTO.getProductId(),
+             addProductMusicianDTO.getMusicianName());
        if
(!musicianRepository.existsByName(addProductMusicianDTO.getMusicianN
ame()))
            throw new MusicianNotFoundException(
                    "Musician with name %s not
found".formatted(addProductMusicianDTO.getMusicianName()));
@@ -269,7 +268,8 @@ public class MusicianService {

    @Transactional
    public Boolean deleteProductFromMusician(AddProductMusicianDTO
addProductMusicianDTO, HttpServletRequest request) {
-     log.info("Deleting product with id {} from musician with name
{}", addProductMusicianDTO.getProductId(),
addProductMusicianDTO.getMusicianName());
+     log.info("Deleting product with id {} from musician with name
{}", addProductMusicianDTO.getProductId(),
+             addProductMusicianDTO.getMusicianName());
        if
(!musicianRepository.existsByName(addProductMusicianDTO.getMusicianN
ame()))
            throw new MusicianNotFoundException(
                    "Musician with name %s not
found".formatted(addProductMusicianDTO.getMusicianName()));
@@ -325,7 +325,8 @@ public class MusicianService {
        .build();
    }

-     private MusicianInfoDTO convertDTO(Musician musician,
List<MusicianGenre> musicianGenres, List<MusicianTypeOfMusician>
musicianTypes, List<MusicianProduct> musicianProducts) {
+     private MusicianInfoDTO convertDTO(Musician musician,
List<MusicianGenre> musicianGenres,
+             List<MusicianTypeOfMusician> musicianTypes,
List<MusicianProduct> musicianProducts) {

```

```

        return MusicianInfoDTO.builder()
            .id(musician.getId())
            .name(musician.getName())
@@ -336,7 +337,8 @@ public class MusicianService {
            .build();
}

-
    private MusicianInfoDTO convertToDTOLists(Musician musician,
List<Genre> genres, List<TypeOfMusician> typesOfMusician,
List<MusicianProduct> musicianProducts) {
+
    private MusicianInfoDTO convertToDTOLists(Musician musician,
List<Genre> genres,
+        List<TypeOfMusician> typesOfMusician, List<MusicianProduct>
musicianProducts) {
        return MusicianInfoDTO.builder()
            .id(musician.getId())
            .name(musician.getName())

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ProductService.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ProductService.java
index 5871954..8730525 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ProductService.java
+++ b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ProductService.java
@@ -32,240 +32,251 @@ import lombok.extern.slf4j.Slf4j;

import java.util.List;
import java.util.Comparator;
+import java.util.Objects;

@Service
@RequiredArgsConstructor
@Slf4j
public class ProductService {
-
    private final ProductRepository productRepository;

```

```

-    private final BrandRepository brandRepository;
-    private final ProductArticleRepository productArticleRepository;
-    private final ProductGenreRepository productGenreRepository;
-    private final MusicianProductRepository musicianProductRepository;
-    private final MusicianGenreRepository musicianGenreRepository;
-    private final MusicianTypeOfMusicianRepository
musicianTypeOfMusicianRepository;
-    private final ShopProductRepository shopProductRepository;
+    private final ProductRepository productRepository;
+    private final BrandRepository brandRepository;
+    private final ProductArticleRepository
productArticleRepository;
+    private final ProductGenreRepository productGenreRepository;
+    private final MusicianProductRepository
musicianProductRepository;
+    private final MusicianGenreRepository musicianGenreRepository;
+    private final MusicianTypeOfMusicianRepository
musicianTypeOfMusicianRepository;
+    private final ShopProductRepository shopProductRepository;

-    public List<ProductGenreDTO> getProductsByBrandName(String
brandName, int from, int size) {
-        log.info("Fetching products for brand: {} from: {} to: {}",

brandName, from, size);
-        Pageable page = Pagification.createPageTemplate(from, size);
+    public List<ProductGenreDTO> getProductsByBrandName(String
brandName, int from, int size) {
+        log.info("Fetching products for brand: {} from: {} to: {}",

brandName, from, size);
+        Pageable page = Pagification.createPageTemplate(from,
size);

-        if (!brandRepository.existsByName(brandName)) {
-            log.warn("Brand with name {} not found", brandName);
-            throw new BrandNotFoundException("Brand %s not
found".formatted(brandName));
+        if (!brandRepository.existsByName(brandName)) {
+            log.warn("Brand with name {} not found", brandName);
+            throw new BrandNotFoundException("Brand %s not
found".formatted(brandName));

```

```

+
+        }
+
+        Brand brand = brandRepository.findByName(brandName);
+
+
+                return productRepository.findAllByBrand(brand,
page).getContent().stream()
+                        .map(product -> ProductGenreDTO.builder()
+                                .product(convertToDTO(product))
+
+.genres(productGenreRepository.findByProduct(product).stream()
+                                .map(ProductGenre::getGenre)
+
+                                .toList()
+
+                                .build())
+
+                                .sorted(Comparator.comparing(productGenreDTO
-> productGenreDTO.getProduct().getId())))
+
+                                .toList();
}
}

-
-        Brand brand = brandRepository.findByName(brandName);
+                public      List<ProductGenreDTO>
getProductsByTypeOfProduct(TypeOfProduct typeOfProduct, int from, int
size) {
+
+                log.info("Fetching products by type: {} from: {} to: {}",

typeOfProduct, from, size);
+
+                Pageable page = Pagification.createPageTemplate(from,
size);

-
+                return     productRepository.findAllByBrand(brand,
page).getContent().stream()
+                        .map(product -> ProductGenreDTO.builder()
+                                .product(convertToDTO(product))
+
-
+.genres(productGenreRepository.findByProduct(product).stream()
-                                .map(ProductGenre::getGenre)
-
+                                .toList()
-
+                                .build())
-
+                                .sorted(Comparator.comparing(productGenreDTO  ->
productGenreDTO.getProduct().getId())))
-
+                                .toList();
}

```

```

-    }
+
+        return
productRepository.findAllByTypeOfProduct(typeOfProduct,
page).getContent().stream()
+
+            .map(product -> ProductGenreDTO.builder()
+                  .product(convertToDTO(product)))
+
+.genres(productGenreRepository.findByProduct(product).stream()
+
+                    .map(ProductGenre::getGenre)
+
+.toList()
+
+.build())
+
+.sorted(Comparator.comparing(productGenreDTO
-> productGenreDTO.getProduct().getId()))
+
+.toList();
+
}

-
public List<ProductGenreDTO>
getProductsByTypeOfProduct(TypeOfProduct typeOfProduct, int from, int
size) {
-
log.info("Fetching products by type: {} from: {} to: {}", typeOfProduct, from, size);
-
Pageable page = Pagification.createPageTemplate(from, size);
+
public ProductGenreDTO getGenresByProductName(String
productName) {
+
log.info("Fetching genres for product: {}", productName);
+
if (!productRepository.existsByName(productName)) {
+
log.warn("Product with name {} not found", productName);
+
throw new ProductNotFoundException("Product %s not
found".formatted(productName));
+
}

-
return productRepository.findAllByTypeOfProduct(typeOfProduct,
page).getContent().stream()
-
.map(product -> ProductGenreDTO.builder()
-
.product(convertToDTO(product)))
-
+
.genres(productGenreRepository.findByProduct(product).stream()
-
.map(ProductGenre::getGenre)
-
.toList())

```

```

-           .build()
-           .sorted(Comparator.comparing(productGenreDTO ->
productGenreDTO.getProduct().getId()))
-           .toList();
-
+           Product      product      =
productRepository.findByName(productName);

-   public ProductGenreDTO getGenresByProductName(String productName)
{
-       log.info("Fetching genres for product: {}", productName);
-       if (!productRepository.existsByName(productName)) {
-           log.warn("Product with name {} not found", productName);
-           throw new ProductNotFoundException("Product %s not
found".formatted(productName));
-       }
+
+           List<ProductGenre>    productGenres    =
productGenreRepository.findByProduct(product);

-       Product product = productRepository.findByName(productName);
+       return ProductGenreDTO.builder()
+           .product(convertToDTO(product))
+           .genres(productGenres.stream().map(productGenre
-> productGenre.getGenre()).toList())
+           .build();
+
+   }

-
+           List<ProductGenre>    productGenres    =
productGenreRepository.findByProduct(product);
+
+   public ProductGenreDTO getProductsById(long id) {
+       log.info("Fetching product by id: {}", id);
+       Product p = productRepository.findById(id).orElseThrow(() -
> {
+           log.warn("Product with id {} not found", id);
+           return new ProductNotFoundException("Product id =
%d not found".formatted(id));
+       });
+       return ProductGenreDTO.builder()
+           .product(convertToDTO(p))

```

```

+
    .genres(productGenreRepository.findByProduct(p).stream()
+
        .map(ProductGenre::getGenre)
+
        .toList())
+
        .build();
+
    }

-
    return ProductGenreDTO.builder()
        .product(convertToDTO(product))
        .genres(productGenres.stream().map(productGenre ->
productGenre.getGenre()).toList())
        .build();
-
}

+
    public List<ProductGenreDTO> getProductsByNameContains(String
name, int from, int size) {
+
    log.info("Fetching products with name containing: {}", 
name);
+
    Pageable page = Pagification.createPageTemplate(from,
size);

-
    public ProductGenreDTO getProductsById(long id){
-
        log.info("Fetching product by id: {}", id);
-
        Product p = productRepository.findById(id).orElseThrow(() -> {
-
            log.warn("Product with id {} not found", id);
-
            return new ProductNotFoundException("Product id = %d not
found".formatted(id));
-
        });
-
        return ProductGenreDTO.builder()
            .product(convertToDTO(p))
            .genres(productGenreRepository.findByProduct(p).stream()
                .map(ProductGenre::getGenre)
                .toList())
            .build();
-
    }
-
    return productRepository.findAllByNameContains(name,
page).getContent().stream()
+
        .map(product -> ProductGenreDTO.builder()
+
        .product(convertToDTO(product)))

```

```

+
    .genres(productGenreRepository.findByProduct(product).stream()
+
        .map(ProductGenre::getGenre)
+
        .toList())
+
        .build())
+
        .sorted(Comparator.comparing(productGenreDTO
-> productGenreDTO.getProduct().getId()))
+
        .toList();
+
    }

-
    public List<ProductGenreDTO> getProductsByNameContains(String
name, int from, int size) {
-
        log.info("Fetching products with name containing: {}", name);
-
        Pageable page = Pagification.createPageTemplate(from, size);
+
        public ProductArticleDTO getProductArticles(long productId,
int from, int size) {
+
            log.info("Fetching articles for product with id: {}", productId);
+
            Pageable page = Pagification.createPageTemplate(from,
size);

-
            return productRepository.findAllByNameContains(name,
page).getContent().stream()
-
                .map(product -> ProductGenreDTO.builder()
-
                    .product(convertToDTO(product))
-
.
.
.
    .genres(productGenreRepository.findByProduct(product).stream()
-
        .map(ProductGenre::getGenre)
-
        .toList())
-
        .build())
-
        .sorted(Comparator.comparing(productGenreDTO ->
productGenreDTO.getProduct().getId()))
-
        .toList();
-
    }

+
    Product      product      =
productRepository.findById(productId).orElseThrow(() -> {
+
        log.warn("Product with id {} not found while
fetching articles", productId);
+
        return new ProductNotFoundException("Product id =
%d not found".formatted(productId));

```

```

+         });

-     public ProductArticleDTO getProductArticles(long productId, int
from, int size) {
-         log.info("Fetching articles for product with id: {}", productId);
-         Pageable page = Pagification.createPageTemplate(from, size);
+         List<ProductArticle> productArticles =
productArticleRepository
+             .findByProductIdAndAccepted(productId, true,
page)
+             .getContent();

-
-         Product      product      =
productRepository.findById(productId).orElseThrow(() -> {
-             log.warn("Product with id {} not found while fetching
articles", productId);
-             return new ProductNotFoundException("Product id = %d not
found".formatted(productId));
-         });
+         return new ProductArticleDTO(convertToDTO(product),
+             productArticles.stream().map(productArticle
-> productArticle.getArticle())
+                 .map(article -> ArticleDTO.builder()
+                     .id(article.getId())
+                     .header(article.getHeader())
+                     .text(article.getText())
+
.author(UserInfoDTO.builder().id(article.getAuthor().getId()))
+
.username(article.getAuthor().getUsername()).build())
+
.createdAt(article.getCreatedAt())
+
.accepted(article.getAccepted())
+
.build())
+
.toList());
+
}
}

-     List<ProductArticle> productArticles = productArticleRepository

```

```

-         .findByProductIdAndAccepted(productId, true, page)
-         .getContent();
+
+     public ProductShopsDTO getProductShops(long productId, int
from, int size) {
+
+         log.info("Fetching shops for product with id: {}", productId);
+
+         Pageable page = Pagification.createPageTemplate(from,
size);
+
+         Product product = productRepository.findById(productId).orElseThrow(() -> {
+
+             log.warn("Product with id {} not found while fetching shops", productId);
+
+             return new ProductNotFoundException("Product id = %d not found".formatted(productId));
+
+         });
+
+         List<ShopProduct> shopProducts = shopProductRepository.findAllByProduct(product, page).getContent();
+
+         List<Shop> shops = shopProducts.stream().map(shopProduct -> shopProduct.getShop()).toList();
+
+
-         return new ProductArticleDTO(convertToDTO(product),
-             productArticles.stream().map(productArticle ->
productArticle.getArticle())
-
-                 .map(article -> ArticleDTO.builder()
-                     .id(article.getId())
-                     .header(article.getHeader())
-                     .text(article.getText())
-
-                     .author(UserInfoDTO.builder().id(article.getAuthor().getId()))
-
-                     .username(article.getAuthor().getUsername().build())
-                         .createdAt(article.getCreatedAt())
-                         .accepted(article.getAccepted())
-                         .build())
-
-                     .toList());
-
-     }
+
+     return ProductShopsDTO.builder()
+         .product(convertToDTO(product))
+         .shops(shops.stream().map(shop -> ProductShopDTO.builder())

```

```

+
    .id(shop.getId())
+
    .name(shop.getName())
+
    .price(shopProducts.stream()
                .filter(shopProduct
-> Objects.equals(shopProduct.getShop().getId(),
                     shop.getId())))
+
    .findFirst().orElseThrow().getPrice())
+
    .available(shopProducts.stream()
                .filter(shopProduct
-> Objects.equals(shopProduct.getShop().getId(),
                     shop.getId())))
+
    .findFirst().orElseThrow().getAvailable())
+
    .build())
+
    .toList())
+
    .build();
+
}

-
public ProductShopsDTO getProductShops(long productId, int from,
int size) {
-
    log.info("Fetching shops for product with id: {}", productId);
-
    Pageable page = Pagification.createPageTemplate(from, size);
-
    Product      product      =
productRepository.findById(productId).orElseThrow(() -> {
-
        log.warn("Product with id {} not found while fetching shops",
productId);
-
        return new ProductNotFoundException("Product id = %d not
found".formatted(productId));
-
    });
-
    List<ShopProduct>      shopProducts      =
shopProductRepository.findAllByProduct(product, page).getContent();
-
    List<Shop>   shops = shopProducts.stream().map(shopProduct ->
shopProduct.getShop()).toList();
-
-
    return ProductShopsDTO.builder()
        .product(convertToDTO(product))
        .shops(shops.stream().map(shop -> ProductShopDTO.builder()
            .id(shop.getId()))

```

```

-
-         .name(shop.getName())
-
-             .price(shopProducts.stream().filter(shopProduct -
-> shopProduct.getShop().getId() == shop.getId()).findFirst().orElseThrow().getPrice())
-
-                 .available(shopProducts.stream().filter(shopProduct -
-> shopProduct.getShop().getId() == shop.getId()).findFirst().orElseThrow().getAvailable())
-
-                     .build()
-
-                         .toList()
-
-                             .build();
-
- }
+
+     public List<ProductDTO> getProductsByFilter(String name,
+
+             Float minRate,
+
+             Float maxRate,
+
+             Long brandId,
+
+             GuitarForm guitarForm,
+
+             TypeOfProduct typeOfProduct,
+
+             Integer lads,
+
+             Double minPrice,
+
+             Double maxPrice,
+
+             Color color,
+
+             Integer strings,
+
+             TipMaterial tipMaterial,
+
+             BodyMaterial bodyMaterial,
+
+             PickupConfiguration pickupConfiguration,
+
+             TypeComboAmplifier typeComboAmplifier,
+
+             ProductSort sortBy,
+
+             boolean ascending,
+
+             int from, int size) {
+
+
-     public List<ProductDTO> getProductsByFilter(String name,
-
-             Float minRate,
-
-             Float maxRate,
-
-             Long brandId,
-
-             GuitarForm guitarForm,
-
-             TypeOfProduct typeOfProduct,
-
-             Integer lads,
-
-             Double minPrice,

```

```

-         Double maxPrice,
-         Color color,
-         Integer strings,
-         TipMaterial tipMaterial,
-         BodyMaterial bodyMaterial,
-         PickupConfiguration pickupConfiguration,
-         TypeComboAmplifier typeComboAmplifier,
-         ProductSort sortBy,
-         boolean ascending,
-         int from, int size) {

-
-     log.info("Fetching products by filter");
-     Specification<Product> specification = Specification.where(ProductSpecification.hasBrand(brandId))
-         .and(ProductSpecification.hasName(name))
-         .and(ProductSpecification.hasRateBetween(minRate,
maxRate))
-         .and(ProductSpecification.hasGuitarForm(guitarForm))
-         .and(ProductSpecification.hasTypeOfProduct(typeOfProduct))
-         .and(ProductSpecification.hasLads(lads))
-         .and(ProductSpecification.hasPriceBetween(minPrice,
maxPrice))
-         .and(ProductSpecification.hasColor(color))
-         .and(ProductSpecification.hasStrings(strings))
-         .and(ProductSpecification.hasTipMaterial(tipMaterial))
-         .and(ProductSpecification.hasBodyMaterial(bodyMaterial))
-
-         .and(ProductSpecification.hasPickupConfiguration(pickupConfiguration))
)
-
-         .and(ProductSpecification.hasTypeComboAmplifier(typeComboAmplifier))
;
+     log.info("Fetching products by filter");
+     Specification<Product> specification = Specification.where(ProductSpecification.hasBrand(brandId))
+         .and(ProductSpecification.hasName(name))
+         .and(ProductSpecification.hasRateBetween(minRate,
maxRate))

```

```

+
.and(ProductSpecification.hasGuitarForm(guitarForm))
+
.and(ProductSpecification.hasTypeOfProduct(typeOfProduct))
+
.and(ProductSpecification.hasLads(lads))
+
.and(ProductSpecification.hasPriceBetween(minPrice, maxPrice))
+
.and(ProductSpecification.hasColor(color))
+
.and(ProductSpecification.hasStrings(strings))
+
.and(ProductSpecification.hasTipMaterial(tipMaterial))
+
.and(ProductSpecification.hasBodyMaterial(bodyMaterial))
+
.and(ProductSpecification.hasPickupConfiguration(pickupConfiguration))
+
.and(ProductSpecification.hasTypeComboAmplifier(typeComboAmplifier));
;

-
Sort sort = Sort.by(ascending ? Sort.Direction.ASC :
Sort.Direction.DESC,
                     sortBy.getFieldName());
-
Pageable page = PageRequest.of(from / size, size, sort);
+
Sort sort = Sort.by(ascending ? Sort.Direction.ASC :
Sort.Direction.DESC,
                     sortBy.getFieldName());
+
Pageable page = PageRequest.of(from / size, size, sort);

-
return productRepository.findAll(specification, page)
    .stream()
    .map(this::convertToDTO)
    .toList();
-
}
+
return productRepository.findAll(specification, page)
    .stream()
    .map(this::convertToDTO)
    .toList();
+
}

```

```

-     public List<MusicianInfoDTO> getMusiciansByProductId(long
productId, int from, int size) {
-         log.info("Fetching musicians for product with id: {}", productId);
-         Pageable page = Pagification.createPageTemplate(from, size);
-         Product product = productRepository.findById(productId).orElseThrow(() -> {
-             log.warn("Product with id {} not found while fetching musicians", productId);
-             return new ProductNotFoundException("Product id = %d not found".formatted(productId));
-         });
-         List<MusicianProduct> musicianProducts = musicianProductRepository.findByProduct(product, page).getContent();
-         List<Musician> musicians = musicianProducts.stream().map(musicianProduct ->
musicianProduct.getMusician()).toList();
-         return musicians.stream().map(musician ->
MusicianInfoDTO.builder()
    .id(musician.getId())
    .name(musician.getName())
    .subscribers(musician.getSubscribers())
    .genres(musicianGenreRepository.findByMusician(musician).stream().ma
p(MusicianGenre::getGenre).toList())
    .typesOfMusicians(musicianTypeOfMusicianRepository.findByMusician(mu
sician).stream().map(MusicianTypeOfMusician::getTypeOfMusician).toList())
    .products(musicianProductRepository.findByMusician(musician).stream(
)
        .map(musicianProduct ->
convertToDTO(musicianProduct.getProduct()))
        .toList()
    .build()).toList();
-     }
+     public List<MusicianInfoDTO> getMusiciansByProductId(long
productId, int from, int size) {
+         log.info("Fetching musicians for product with id: {}", productId);

```

```

+
    pageable page = Pagification.createPageTemplate(from,
size);
+
    Product product = productRepository.findById(productId).orElseThrow(() -> {
+
        log.warn("Product with id {} not found while fetching musicians", productId);
+
        return new ProductNotFoundException("Product id = %d not found".formatted(productId));
+
    });
+
    List<MusicianProduct> musicianProducts = musicianProductRepository.findByProduct(product, page)
+
        .getContent();
+
    List<Musician> musicians = musicianProducts.stream().map(musicianProduct ->
musicianProduct.getMusician())
+
        .toList();
+
    return musicians.stream().map(musician ->
MusicianInfoDTO.builder()
+
        .id(musician.getId())
+
        .name(musician.getName())
+
        .subscribers(musician.getSubscribers())
+
        .genres(musicianGenreRepository.findByMusician(musician).stream().ma
p(MusicianGenre::getGenre)
+
        .toList())
+
        .typesOfMusicians(musicianTypeOfMusicianRepository.findByMusician(mu
sician).stream())
+
        .map(MusicianTypeOfMusician::getTypeOfMusician).toList())
+
        .products(musicianProductRepository.findByMusician(musician).stream(
)
+
        .map(musicianProduct ->
convertToDTO(musicianProduct.getProduct())))
+
        .toList())
+
        .build()).toList();
+
    }
}

-
private ProductDTO convertToDTO(Product product) {
-
    return ProductDTO.builder()

```

```

-
    .id(product.getId())
    .name(product.getName())
    .description(product.getDescription())
    .rate(product.getRate())
    .brand(BrandDTO.builder()
        .id(product.getBrand().getId())
        .name(product.getBrand().getName())
        .country(product.getBrand().getCountry())
        .website(product.getBrand().getWebsite())
        .email(product.getBrand().getEmail())
        .build())
    .guitarForm(product.getGuitarForm())
    .typeOfProduct(product.getTypeOfProduct())
    .lads(product.getLads())
    .avgPrice(product.getAvgPrice())
    .color(product.getColor())
    .strings(product.getStrings())
    .tipMaterial(product.getTipMaterial())
    .bodyMaterial(product.getBodyMaterial())
    .pickupConfiguration(product.getPickupConfiguration())
    .typeComboAmplifier(product.getTypeComboAmplifier())
    .build();
}
private ProductDTO convertToDTO(Product product) {
    return ProductDTO.builder()
        .id(product.getId())
        .name(product.getName())
        .description(product.getDescription())
        .rate(product.getRate())
        .brand(BrandDTO.builder()
            .id(product.getBrand().getId())
            .name(product.getBrand().getName())
+
            .country(product.getBrand().getCountry())
+
            .website(product.getBrand().getWebsite())
+
            .email(product.getBrand().getEmail())

```

```

+
        .build())
+
        .guitarForm(product.getGuitarForm())
+
        .typeOfProduct(product.getTypeOfProduct())
+
        .lads(product.getLads())
+
        .avgPrice(product.getAvgPrice())
+
        .color(product.getColor())
+
        .strings(product.getStrings())
+
        .tipMaterial(product.getTipMaterial())
+
        .bodyMaterial(product.getBodyMaterial())
+
        .pickupConfiguration(product.getPickupConfiguration())
+
        .typeComboAmplifier(product.getTypeComboAmplifier())
+
        .build();
+
    }
}

diff --git
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ShopService
.java
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ShopService
.java
index c7f2da8..c4f247b 100644
---
a/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ShopService
.java
+++
b/backend/src/main/java/itmo/is/cw/GuitarMatchIS/service/ShopService
.java
@@ -40,12 +40,7 @@ public class ShopService {
        shop1.getWebsite(),
        shop1.getEmail(),
        shop1.getAddress()))
-
        .sorted(new Comparator<ShopDTO>() {
-
            @Override
-
            public int compare(ShopDTO o1, ShopDTO o2) {
-
                return o1.getId().compareTo(o2.getId());
-
            }
-
        })
+
        .sorted(Comparator.comparing(ShopDTO::getId))

```

```

        .toList();
    }

@@ -83,14 +78,13 @@ public class ShopService {
        .build();
    }

-    private ShopDTO convertToDTO(Shop shop) {
-        return new ShopDTO(
+    private ShopDTO convertToDTO(Shop shop) {
+        return new ShopDTO(
                shop.getId(),
                shop.getName(),
                shop.getDescription(),
                shop.getWebsite(),
                shop.getEmail(),
-                shop.getAddress()
-
-            );
-
-        }
+                shop.getAddress());
+
+    }
}

```

## Коммит c2192d2

```

commit c2192d21a04c3da7455ebc0c7c2ee0a85ed63f2e
Author: Romariok <ronya-ko@yandex.ru>
Date:   Fri Nov 21 16:58:51 2025 +0300

```

Snyk report fix 1

```

diff --git a/backend/pom.xml b/backend/pom.xml
index ae4603e..5a2c1a8 100644
--- a/backend/pom.xml
+++ b/backend/pom.xml
@@ -105,6 +105,11 @@
                    <artifactId>springdoc-openapi-starter-webmvc-
ui</artifactId>

```

```
        <version>2.8.10</version>
    </dependency>
+    <dependency>
+        <groupId>org.apache.commons</groupId>
+        <artifactId>commons-lang3</artifactId>
+        <version>3.18.0</version>
+    </dependency>
</dependencies>
```

## Добавление релизов на Github

Добавили автоматическую сборку проекта под релиз в CI/CD, чтобы при любом изменении в проекте пользователи могли тут же скачать новую сборку.

Коммиты: [1](#), [2](#)

### Коммит 634e279

commit 634e279119a26479c5149404d290f948bf990bac

Author: Romariok <ronya-ko@yandex.ru>

Date: Fri Nov 21 17:15:03 2025 +0300

add ci and releases workflows

```
diff --git a/.github/workflows/ci.yml b/.github/workflows/ci.yml
new file mode 100644
index 0000000..e289c0e
--- /dev/null
+++ b/.github/workflows/ci.yml
@@ -0,0 +1,84 @@
+name: CI
+
+on:
+  push:
+  pull_request:
+
+permissions:
+  contents: read
+
```

```
+jobs:
+  backend:
+    name: Backend - Maven build
+    runs-on: ubuntu-latest
+    defaults:
+      run:
+        working-directory: backend
+    steps:
+      - uses: actions/checkout@v4
+      - name: Set up JDK 17
+        uses: actions/setup-java@v4
+        with:
+          distribution: temurin
+          java-version: "17"
+          cache: maven
+      - name: Build backend
+        run: mvn -B -ntp -DskipTests package
+      - name: Upload backend jar
+        uses: actions/upload-artifact@v4
+        with:
+          name: backend-jar
+          path: backend/target/*.jar
+          if-no-files-found: warn
+
+  frontend:
+    name: Frontend - Node build
+    runs-on: ubuntu-latest
+    defaults:
+      run:
+        working-directory: front
+    steps:
+      - uses: actions/checkout@v4
+      - name: Setup Node.js 20
+        uses: actions/setup-node@v4
+        with:
+          node-version: "20"
```

```

+           cache: npm
+           cache-dependency-path: front/package-lock.json
+           - name: Install dependencies
+             run: npm ci
+           - name: Lint
+             run: npm run lint --if-present
+           - name: Build
+             run: npm run build
+           - name: Upload frontend dist
+             uses: actions/upload-artifact@v4
+             with:
+               name: frontend-dist
+               path: front/dist
+               if-no-files-found: warn
+
+ dockerfiles:
+   name: Dockerfiles - Build check
+   runs-on: ubuntu-latest
+   needs: [backend, frontend]
+   steps:
+     - uses: actions/checkout@v4
+     - name: Set up QEMU
+       uses: docker/setup-qemu-action@v3
+     - name: Set up Docker Buildx
+       uses: docker/setup-buildx-action@v3
+     - name: Build backend image (no push)
+       uses: docker/build-push-action@v6
+       with:
+         context: ./backend
+         file: ./backend/Dockerfile
+         push: false
+         tags: temp/backend:ci
+     - name: Build frontend image (no push)
+       uses: docker/build-push-action@v6
+       with:
+         context: ./front

```

```

+           file: ./front/Dockerfile
+
+           push: false
+
+           tags: temp/frontend:ci
diff          --git      a/.github/workflows/release.yml
b/.github/workflows/release.yml
new file mode 100644
index 0000000..12ac056
--- /dev/null
+++ b/.github/workflows/release.yml
@@ -0,0 +1,83 @@
+name: Release images
+
+on:
+  push:
+    tags:
+      - "v*"
+  workflow_dispatch:
+
+permissions:
+  contents: write
+  packages: write
+
+jobs:
+  release:
+    name: Build, push images and publish GitHub Release
+    runs-on: ubuntu-latest
+    steps:
+      - uses: actions/checkout@v4
+
+      - name: Set up QEMU
+        uses: docker/setup-qemu-action@v3
+
+      - name: Set up Docker Buildx
+        uses: docker/setup-buildx-action@v3
+
+      - name: Log in to GHCR
+        uses: docker/login-action@v3

```

```

+     with:
+
+         registry: ghcr.io
+
+         username: ${{ github.repository_owner }}
+
+         password: ${{ secrets.GITHUB_TOKEN }}
+
+
+         - name: Compute image names and version
+
+             id: vars
+
+             run: |
+
+                 OWNER_LC=$(echo "${{ github.repository_owner }}" | tr '[[:upper:]]' '[[:lower:]]')
+
+                 REPO_LC=$(echo "${{ github.event.repository.name }}" | tr '[[:upper:]]' '[[:lower:]]')
+
+                 VERSION="${GITHUB_REF_NAME}"
+
+                 echo "owner_lc=$OWNER_LC" >> $GITHUB_OUTPUT
+
+                 echo "repo_lc=$REPO_LC" >> $GITHUB_OUTPUT
+
+                 echo "version=$VERSION" >> $GITHUB_OUTPUT
+
+
+         - name: Build and push backend image
+
+             uses: docker/build-push-action@v6
+
+             with:
+
+                 context: ./backend
+
+                 file: ./backend/Dockerfile
+
+                 platforms: linux/amd64
+
+                 push: true
+
+                 tags: |
+
+                     ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-backend:${{ steps.vars.outputs.version }}
+
+                     ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-backend:latest
+
+
+         - name: Build and push frontend image
+
+             uses: docker/build-push-action@v6
+
+             with:
+
+                 context: ./front
+
+                 file: ./front/Dockerfile
+
+                 platforms: linux/amd64
+
+                 push: true

```

```

+
tags: |
+
ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-front:${{ steps.vars.outputs.version }}
+
ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-front:latest
+
-
name: Pull and export backend image
run: |
+
docker pull ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-backend:${{ steps.vars.outputs.version }}
+
docker save ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-backend:${{ steps.vars.outputs.version }} | gzip > backend-image-${{ steps.vars.outputs.version }}.tar.gz
+
-
name: Pull and export frontend image
run: |
+
docker pull ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-front:${{ steps.vars.outputs.version }}
+
docker save ghcr.io/${{ steps.vars.outputs.owner_lc }}/${{ steps.vars.outputs.repo_lc }}-front:${{ steps.vars.outputs.version }} | gzip > front-image-${{ steps.vars.outputs.version }}.tar.gz
+
-
name: Publish GitHub Release
uses: softprops/action-gh-release@v2
env:
  GITHUB_TOKEN: ${{ secrets.GITHUB_TOKEN }}
with:
  files: |
    backend-image-${{ steps.vars.outputs.version }}.tar.gz
    front-image-${{ steps.vars.outputs.version }}.tar.gz
  generate_release_notes: true

```

## Коммит fa9bb24

commit fa9bb2466384dbdb0a7f376455924003188615b3  
Author: Romariok <ronya-ko@yandex.ru>

Date: Fri Nov 21 17:22:14 2025 +0300

changed contex path for backend processing in CI

```
diff --git a/.github/workflows/ci.yml b/.github/workflows/ci.yml
index e289c0e..27351fe 100644
--- a/.github/workflows/ci.yml
+++ b/.github/workflows/ci.yml
@@ -71,7 +71,7 @@ jobs:
      - name: Build backend image (no push)
        uses: docker/build-push-action@v6
        with:
-          context: ./backend
+          context: .
            file: ./backend/Dockerfile
            push: false
            tags: temp/backend:ci
diff --git a/.github/workflows/release.yml b/.github/workflows/release.yml
index 12ac056..df160ee 100644
--- a/.github/workflows/release.yml
+++ b/.github/workflows/release.yml
@@ -43,7 +43,7 @@ jobs:
      - name: Build and push backend image
        uses: docker/build-push-action@v6
        with:
-          context: ./backend
+          context: .
            file: ./backend/Dockerfile
            platforms: linux/amd64
            push: true
```

## Заключение

В результате нашей работы во время второй итерации мы:

- значительно улучшили код-стил в нашем проекте
- добавили автоматическое обнаружение уязвимостей в CI
- исправили возможные уязвимости, найденные с помощью Snyk и Spotbugs
- добавили кастомный парсер и весь наш проект в единый docker-compose – теперь наш проект можно запускать одной командой
- добавили автоматическую сборку в релизы на Github

Благодаря обширным возможностям CI/CD на Github у нас получилось закрыть большое количество недоработок в нашем проекте, а Docker помог нам облегчить развертывание нашего приложения.