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26
   e1744a916fc/packages/shiki/src/renderer.ts import { FontStyle } from './stackElementMetadata'
27
28
29
   import { IThemedToken } from './themedTokenizer'
30
   export interface HtmlRendererOptions {
31
32
33
34
35
36
     langId?: string
     fg?: string bg?: string
   export function renderToHtml(
37
     lines: IThemedToken[][],
38
39
     options: HtmlRendererOptions = {}
40
     const bg = options.bg | '#fff'
41
42
43
44
45
46
     let html = ''
     html += `re class="shiki" style="background-color: ${bq}">`
     if (options.langId) {
       html += `<div class="language-id">${options.langId}</div>`
47
48
     html += `<code>`
49
50
     lines.forEach((l: IThemedToken[]) => {
51
       html += `<span class="line">
52
53
        1.forEach((token) => {
54
          const cssDeclarations = [`color: ${token.color || options.fg}`]
55
          if (token.fontStyle & FontStyle.Italic)
56
            cssDeclarations.push('font-style: italic')
57
58
            (token.fontStyle & FontStyle.Bold) {
59
            cssDeclarations.push('font-weight: bold')
60
61
          if (token.fontStyle & FontStyle.Underline)
62
            cssDeclarations.push('text-decoration: underline')
63
```

```
64
          html += `<span style="${cssDeclarations.join('; ')}">${escapeHtml(
 65
            token.content
 66
          67
 68
        html += \</span>\n
 69
      html = html.replace(/\n^*\$/, '') // Get_rid of final new lines
 70
 71
72
73
74
75
76
77
      html += `</code>
      return html
    const htmlEscapes = {
      '&': '&',
 78
 79
      '>': '>',
      '"': '"'
 80
      "'": ''',
 81
 82
 83
 84
    function escapeHtml(html: string)
 85
      return html.replace(/[&<>"']/q, (chr) => htmlEscapes[chr])
 86
 87
 88
 89
 90
    import type {
 91
     Highlighter,
 92
     HighlighterOptions,
 93
     ILanguageRegistration,
 94
      IShikiTheme,
 95
      IThemeRegistration,
 96
      StringLiteralUnion,
 97
     from './types'
 98
 99
    import { tokenizeWithTheme } from './themedTokenizer'
import { renderToHtml } from './renderer'
100
101
102
    import { getOnigasm } from './loader'
103
           { Lang, languages as BUNDLED_LANGUAGES } from './languages'
    import
104
    import
105
    import { Theme } from './themes'
106
107
    function resolveLang(lang: ILanguageRegistration | Lang) {
108
     return typeof lang === 'string'
109
        ? BUNDLED_LANGUAGES.find((1) => l.id === lang | l.aliases?.includes(lang
    ) )
110
        : lang
111
112
113
    function resolveOptions(options: HighlighterOptions)
114
      let _languages: ILanguageRegistration[] = BUNDLED_LANGUAGES
115
      116
117
      if (options.langs?.length) {
118
        _languages = options.langs.map(resolveLang)
119
120
      if (options.theme) {
121
122
        _themes.unshift(options.theme)
123
124
      if (!_themes.length) {
        _themes = ['nord']
125
126
127
      return { _languages, _themes }
128
129
130
    export async function getHighlighter(
131
     options: HighlighterOptions
```

```
134
      const _resolver = new Resolver(getOnigasm(), 'onigasm')
135
      const _registry = new Registry(_resolver)
136
137
      if (options.paths?.themes) {
        _registry.themesPath = options.paths.themes
138
139
140
141
      if (options.paths?.languages) {
142
        _resolver.languagesPath = options.paths.languages
143
144
145
      const themes = await _registry.loadThemes(_themes)
146
      const defaultTheme = themes[0]
147
      let _currentTheme: IShikiTheme | undefined
148
      await _registry.loadLanguages(_languages)
149
150
151
152
153
154
155
156
157
      const COLOR_REPLACEMENTS: Record<string, string> = {
158
        '#000001': 'var(--shiki-color-text)',
159
        '#000002': 'var(--shiki-color-background)',
        '#000004': 'var(--shiki-token-constant)',
160
        '#000005': 'var(--shiki-token-string)'
161
162
        '#000006': 'var(--shiki-token-comment)'
163
        '#000007': 'var(--shiki-token-keyword)',
164
        '#000008': 'var(--shiki-token-parameter)',
        '#000009': 'var(--shiki-token-function)',
165
166
        '#000010': 'var(--shiki-token-string-expression)',
167
168
        '#000012': 'var(--shiki-token-link)',
169
170
171
      function fixCssVariablesTheme(theme: IShikiTheme, colorMap: string[]) {
172
        theme.bg = COLOR_REPLACEMENTS[theme.bg]
                                                   theme.bg
173
        theme.fg = COLOR_REPLACEMENTS[theme.fg] | theme.fg
174
        colorMap.forEach((val, i) =>
175
          colorMap[i] = COLOR_REPLACEMENTS[val] || val
176
177
178
179
      function getTheme(theme?: IThemeRegistration) {
180
        const _theme = theme ? _registry.getTheme(theme) : _defaultTheme
181
        if (!_theme)
          throw Error(`No theme registration for ${theme}`)
182
183
184
        if (!_currentTheme || _currentTheme.name !== _theme.name) {
185
          _registry.setTheme(_theme)
186
          _currentTheme = _theme
187
188
               _colorMap = _registry.getColorMap()
189
        if (_theme.name === 'css-variables') {
190
          fixCssVariablesTheme(_theme, _colorMap)
191
192
        return { _theme, _colorMap }
193
194
195
      function getGrammer(lang: string) {
196
        const _grammer = _registry.getGrammer(lang)
197
        if (!_grammer) {
          throw Error(`No language registration for ${lang}`)
198
```

): Promise<Highlighter> {

const { _languages, _themes } = resolveOptions(options)

```
return { _grammer }
function codeToThemedTokens(
 code: string,
  lang = 'text',
  theme?: StringLiteralUnion<Theme>,
  options = { includeExplanation: true }
  if (isPlaintext(lang)) {
    return [[{ content: code }]]
        { _grammer } = getGrammer(lang)
{ theme. colorMap } = getThem
  const
          _theme, _colorMap } = getTheme(theme)
  return tokenizeWithTheme(_theme, _colorMap, code, _grammer, options)
function codeToHtml(
 code: string,
  lang = 'text',
  theme?: StringLiteralUnion<Theme>
  const tokens = codeToThemedTokens(code, lang, theme, {
    includeExplanation: false,
  const { _theme } = getTheme(theme)
  return renderToHtml(tokens, {
    fg: _theme.fg,
    bg: _theme.bg,
  })
async function loadTheme(theme: IShikiTheme | Theme) {
 await _registry.loadTheme(theme)
async function loadLanguage(lang: ILanguageRegistration | Lang) {
  const _lang = resolveLang(lang)
  _resolver.addLanguage(_lang)
  await _registry.loadLanguage(_lang)
function getLoadedThemes()
  return _registry.getLoadedThemes()
function getLoadedLanguages() {
  return _registry.getLoadedLanguages()
function getBackgroundColor(theme?: StringLiteralUnion<Theme>) {
  const { _theme } = getTheme(theme)
  return _theme.bg
function getForegroundColor(theme?: StringLiteralUnion<Theme>) {
  const { _theme } = getTheme(theme)
  return _theme.fg
return {
 codeToThemedTokens,
  codeToHtml,
  getTheme: (theme: IThemeRegistration) => {
    return getTheme(theme)._theme
  loadTheme,
  loadLanguage,
  getBackgroundColor,
```

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244245246

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248 249 250

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265 266

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```
269
                                            getForegroundColor,
270
271
                                            getLoadedThemes,
                                            getLoadedLanguages,
272
273
274
275
                      function isPlaintext(lang: string | null | undefined) {
276
                                return !lang | ['plaintext', 'txt', 'text'].includes(lang)
277
278
279
280
                      const ReallyReallyLongFileName =
281
282
                                  'really-really-really-really-really-really-really-really-really-reall
                      y-really-really-really-really-really-really-really-really-really-really-really
                      -really-really-really-really-really-really-really-really-really-
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                      lly-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-reall
                      ly-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really-really
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