Theme Configuration

Dynamic and integrated theme configuration was introduced in Mermaid version 8.7.0.

Themes can now be customized at the site-wide level, or on individual Mermaid diagrams. For site-wide theme customization, the `initialize` call is used. For diagram specific customization, the `init` directive is used.

Available Themes

1. **default** - This is the default theme for all diagrams.

2. **neutral** - This theme is great for black and white documents that will be printed.

3. **dark** - This theme goes well with dark-colored elements or dark-mode.

4. **forest** - This theme contains shades of green.

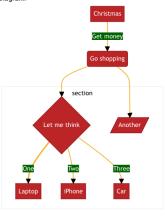5. **base** - This is the only theme that can be modified. Use this theme as the base for customizations.

Site-wide Theme

To customize themes site-wide, call the `initialize` method on the `mermaidAPI`.

Example of `initialize` call setting `theme` to `base`:

```javascript
mermaidAPI.initialize({
  securityLevel: 'loose',
  theme: 'base',
});
```

Diagram-specific Themes

To customize the theme of an individual diagram, use the `init` directive.

Example of `init` directive setting the `theme` to `forest`:

Code:

```mermaid
%%{init: {'theme':'forest'}}%%
  graph TD
    a --> b
```

Diagram:

```
┌───┐
│ a │
└─┬─┘
  │
  ▼
┌───┐
│ b │
└───┘
```

> **Reminder**: the only theme that can be customed is the `base` theme. The following section covers how to use `themeVariables` for customizations.

Customizing Themes with `themeVariables`

To make a custom theme, modify `themeVariables` via `init`.

You will need to use the base theme as it is the only modifiable theme.

Parameter	Description	Type	Properties
themeVariables	Modifiable with the `init` directive	Object	`primaryColor`, `primaryTextColor`, `lineColor` (see full list)

Example of modifying `themeVariables` using the `init` directive:

Code:

```mermaid
%%{
  init: {
    'theme': 'base',
    'themeVariables': {
      'primaryColor': '#BB2528',
      'primaryTextColor': '#fff',
      'primaryBorderColor': '#7C0000',
      'lineColor': '#F8B229',
      'secondaryColor': '#006100',
      'tertiaryColor': '#fff'
    }
  }
}%%
    graph TD
      A[Christmas] -->|Get money| B(Go shopping)
      B --> C{Let me think}
      B --> G[/Another/]
      C ==>|One| D[Laptop]
      C -->|Two| E[iPhone]
```

```
        C -->|Three| F[fa:fa-car Car]
    subgraph section
        C
        D
        E
        F
        G
    end
```

Diagram:

Color and Color Calculation

To ensure diagram readability, the default value of certain variables is calculated or derived from other variables. For example, `primaryBorderColor` is derived from the `primaryColor` variable. So if the `primaryColor` variable is customized, Mermaid will adjust `primaryBorderColor` automatically. Adjustments can mean a color inversion, a hue change, a darkening/lightening by 10%, etc.

The theming engine will only recognize hex colors and not color names. So, the value `#ff0000` will work, but `red` will not.

Theme Variables

Variable	Default value	Description
darkMode	false	Affects how derived colors are calculated. Set value to `true` for darkmode.
background	#f4f4f4	Used to calculate color for items that should either be background colored or contrasting to the background
fontFamily	trebuchet ms, verdana, arial	
fontSize	16px	Font size in pixels
primaryColor	#fff4dd	Color to be used as background in nodes, other colors will be derived from this
primaryBorderColor	calculated from primaryColor	Color to be used as border in nodes using `primaryColor`
primaryBorderColor	calculated from primaryColor	Color to be used as border in nodes using `primaryColor`
primaryTextColor	calculated from darkMode #ddd/#333	Color to be used as text color in nodes using `primaryColor`
secondaryColor	calculated from primaryColor	
primaryBorderColor	calculated from primaryColor	Color to be used as border in nodes using `primaryColor`
secondaryBorderColor	calculated from secondaryColor	Color to be used as border in nodes using `secondaryColor`
primaryBorderColor	calculated from primaryColor	Color to be used as border in nodes using `primaryColor`
secondaryTextColor	calculated from secondaryColor	Color to be used as text color in nodes using `secondaryColor`
tertiaryColor	calculated from primaryColor	
tertiaryBorderColor	calculated from tertiaryColor	Color to be used as border in nodes using `tertiaryColor`
	calculated from	Color to be used as text color in

	tertiaryColor	nodes using `tertiaryColor`
tertiaryTextColor		
noteBkgColor	#fff5ad	Color used as background in notes
noteTextColor	#333	Text color in note rectangles
noteBorderColor	calculated from noteBkgColor	Border color in note rectangles
lineColor	calculated from background	
textColor	calculated from primaryTextColor	Text in diagram over the background for instance text on labels and on signals in sequence diagram or the title in Gantt diagram
mainBkg	calculated from primaryColor	Background in flowchart objects like rects/circles, class diagram classes, sequence diagram etc
errorBkgColor	tertiaryColor	Color for syntax error message
errorTextColor	tertiaryTextColor	Color for syntax error message

Flowchart Variables

Variable	Default value	Description
nodeBorder	primaryBorderColor	Node Border Color
clusterBkg	tertiaryColor	Background in subgraphs
clusterBorder	tertiaryBorderColor	Cluster Border Color
defaultLinkColor	lineColor	Link Color
titleColor	tertiaryTextColor	Title Color
edgeLabelBackground	calculated from secondaryColor	
nodeTextColor	primaryTextColor	Color for text inside Nodes

Sequence Diagram Variables

Variable	Default value	Description
actorBkg	mainBkg	Actor Background Color
actorBorder	primaryBorderColor	Actor Border Color
actorTextColor	primaryTextColor	Actor Text Color
actorLineColor	grey	Actor Line Color
signalColor	textColor	Signal Color
signalTextColor	textColor	Signal Text Color
labelBoxBkgColor	actorBkg	Label Box Background Color
labelBoxBorderColor	actorBorder	Label Box Border Color
labelTextColor	actorTextColor	Label Text Color
loopTextColor	actorTextColor	Loop Text Color
activationBorderColor	calculated from secondaryColor	Activation Border Color
activationBkgColor	secondaryColor	Activation Background Color
sequenceNumberColor	calculated from lineColor	Sequence Number Color

State Colors

Variable	Default value	Description
labelColor	primaryTextColor	
altBackground	tertiaryColor	Used for background in deep composite states

Class Colors

Variable	Default value	Description
classText	textColor	Color of Text in class diagrams

User Journey Colors

Variable	Default value	Description
fillType0	primaryColor	Fill for 1st section in journey diagram
fillType1	secondaryColor	Fill for 2nd section in journey diagram
fillType2	calculated from primaryColor	Fill for 3rd section in journey diagram
fillType3	calculated from secondaryColor	Fill for 4th section in journey diagram
fillType4	calculated from primaryColor	Fill for 5th section in journey diagram
fillType5	calculated from secondaryColor	Fill for 6th section in journey diagram
fillType6	calculated from primaryColor	Fill for 7th section in journey diagram
fillType7	calculated from secondaryColor	Fill for 8th section in journey diagram

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