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# Color

Convey meaning through color. Out of the box you get access to all colors in the Material Design spec.

**Color** in material design is inspired by bold hues juxtaposed with muted environments, deep shadows, and bright highlights.

## Color system

The Material Design color system can be used to create a color theme that reflects your brand or style.

## Important Terms

### "Palette"

A palette is a collection of colors, i.e. hues and their shades. Material-UI provides all colors from the Material Design guidelines.

### "Hue" & "Shade"

A single color within the palette is made up of a hue such as "red", and shade, such as "500". "red 50" is the lightest shade of red (*pink!*), while "red 900" is the darkest. In addition, most hues come with "accent" shades, prefixed with an A .

## Examples

The Material Design color palette comprises primary and accent colors that can be used for illustration or to develop your brand colors. They've been designed to work harmoniously with each other.

For instance, you can refer to complementary primary and accent colors (for example 'red 500' & 'purple A200'), like so:

```
import purple from '@material-ui/core/colors/purple';
import red from '@material-ui/core/colors/red';

const primary = red[500]; // #F44336
const accent = purple['A200']; // #E040FB
const accent2 = purple.A200; // #E040FB (alternative method)
```

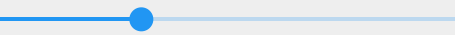
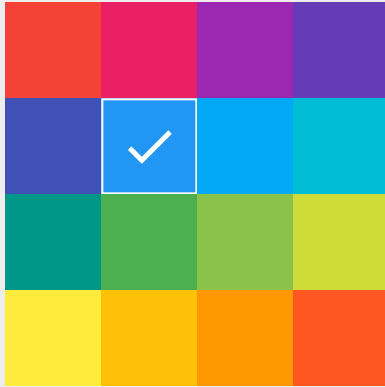
## Color tool

To test a [material.io/color](https://material.io/color) color scheme with the Material-UI documentation, simply select colors using the palette and sliders below. Alternatively, you can enter hex values in the Primary and Secondary text fields.

Primary

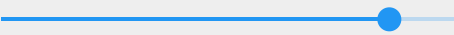
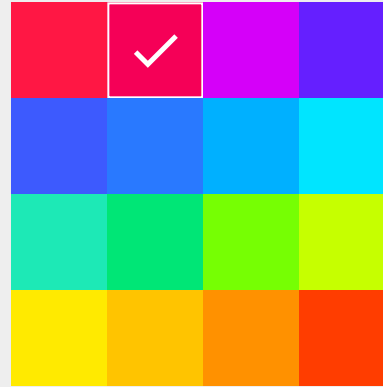
Secondary

#2196f3

Shade:  500

#1769aa #2196f3 #4dabf5

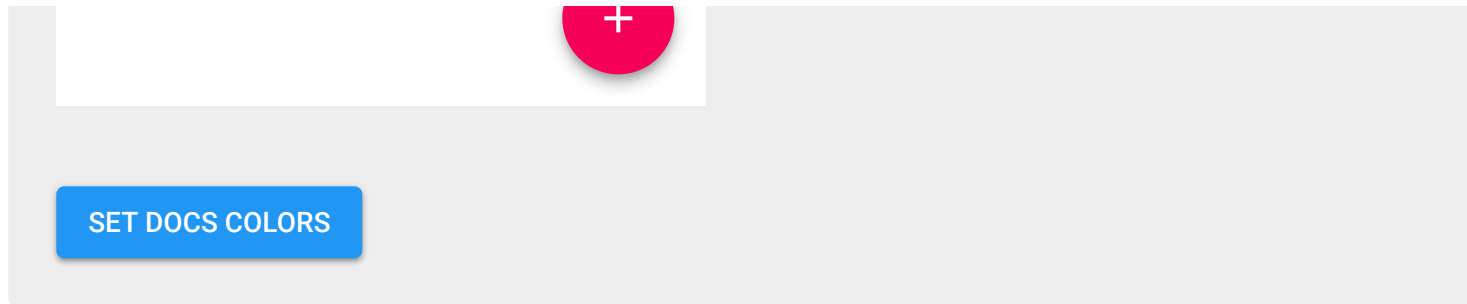
#f50057

Shade:  A400

#ab003c #f50057 #f73378

 Color sample

```
{
  palette: {
    primary: blue,
    secondary: pink,
  },
}
```



The output shown in the color sample can be pasted directly into a `createMuiTheme()` function (to be used with `MuiThemeProvider`):

```
import { createMuiTheme } from '@material-ui/core/styles';
import purple from '@material-ui/core/colors/purple';

const theme = createMuiTheme({
  palette: {
    primary: purple,
    secondary: {
      main: '#f44336',
    },
  },
});
```

Only the `main` shades need be provided (unless you wish to further customise `light`, `dark` or `contrastText`), as the other colors will be calculated by `createMuiTheme()`, as described in the [Theme customization](#) section.

If you are using the default primary and / or secondary shades then by providing the color object, `createMuiTheme()` will use the appropriate shades from the material color for main, light and dark.

# Material color tool

The Material Design team has also built an awesome palette configuration tool: [material.io/tools/color](https://material.io/tools/color). This can help you create a color palette for your UI, as well as measure the accessibility level of any color combination.



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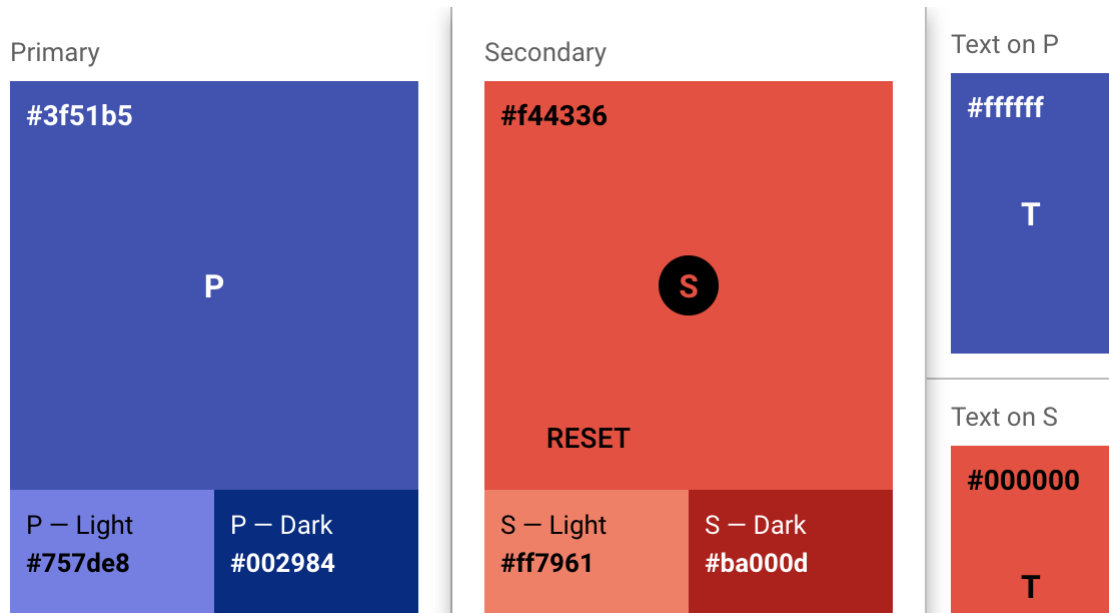
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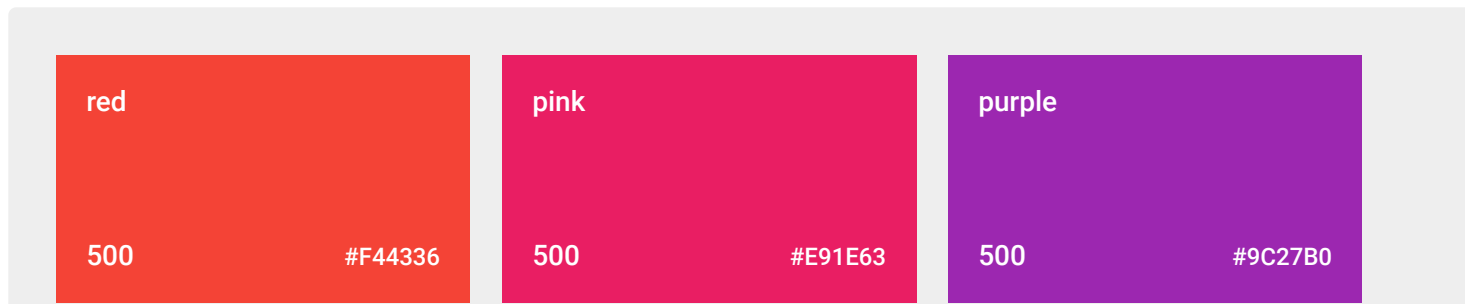
The output can be fed into `createMuiTheme()` function:

```
import { createMuiTheme } from '@material-ui/core/styles';

const theme = createMuiTheme({
  palette: {
    primary: {
      light: '#757ce8',
      main: '#3f50b5',
      dark: '#002884',
      contrastText: '#fff',
    },
    secondary: {
      light: '#ff7961',
      main: '#f44336',
      dark: '#ba000d',
      contrastText: '#000',
    },
  },
});
```

## Color palette

This color palette comprises primary and accent colors that can be used for illustration or to develop your brand colors. They've been designed to work harmoniously with each other.



50	#FFEBEE	50	#FCE4EC	50	#F3E5F5
100	#FFCDD2	100	#F8BBD0	100	#E1BEE7
200	#EF9A9A	200	#F48FB1	200	#CE93D8
300	#E57373	300	#F06292	300	#BA68C8
400	#EF5350	400	#EC407A	400	#AB47BC
500	#F44336	500	#E91E63	500	#9C27B0
600	#E53935	600	#D81B60	600	#8E24AA
700	#D32F2F	700	#C2185B	700	#7B1FA2
800	#C62828	800	#AD1457	800	#6A1B9A
900	#B71C1C	900	#880E4F	900	#4A148C
A100	#FF8A80	A100	#FF80AB	A100	#EA80FC
A200	#FF5252	A200	#FF4081	A200	#E040FB
A400	#FF1744	A400	#F50057	A400	#D500F9
A700	#D50000	A700	#C51162	A700	#AA00FF
deepPurple		indigo		blue	

500	#673AB7	500	#3F51B5	500	#2196F3
50	#EDE7F6	50	#E8EAF6	50	#E3F2FD
100	#D1C4E9	100	#C5CAE9	100	#BBDEFB
200	#B39DDB	200	#9FA8DA	200	#90CAF9
300	#9575CD	300	#7986CB	300	#64B5F6
400	#7E57C2	400	#5C6BC0	400	#42A5F5
500	#673AB7	500	#3F51B5	500	#2196F3
600	#5E35B1	600	#3949AB	600	#1E88E5
700	#512DA8	700	#303F9F	700	#1976D2
800	#4527A0	800	#283593	800	#1565C0
900	#311B92	900	#1A237E	900	#0D47A1
A100	#B388FF	A100	#8C9EFF	A100	#82B1FF
A200	#7C4DFF	A200	#536DFE	A200	#448AFF
A400	#651FFF	A400	#3D5AFE	A400	#2979FF
A700	#6200EA	A700	#304FFE	A700	#2962FF



lightBlue		cyan		teal	
500	#03A9F4	500	#00BCD4	500	#009688
50	#E1F5FE	50	#E0F7FA	50	#E0F2F1
100	#B3E5FC	100	#B2EBF2	100	#B2DFDB
200	#81D4FA	200	#80DEEA	200	#80CBC4
300	#4FC3F7	300	#4DD0E1	300	#4DB6AC
400	#29B6F6	400	#26C6DA	400	#26A69A
500	#03A9F4	500	#00BCD4	500	#009688
600	#039BE5	600	#00ACC1	600	#00897B
700	#0288D1	700	#0097A7	700	#00796B
800	#0277BD	800	#00838F	800	#00695C
900	#01579B	900	#006064	900	#004D40
A100	#80D8FF	A100	#84FFFF	A100	#A7FFEB
A200	#40C4FF	A200	#18FFFF	A200	#64FFDA
A400	#00B0FF	A400	#00E5FF	A400	#1DE9B6

A700	#0091EA	A700	#00B8D4	A700	#00BFA5
green		lightGreen		lime	
500	#4CAF50	500	#8BC34A	500	#CDDC39
50	#E8F5E9	50	#F1F8E9	50	#F9FBE7
100	#C8E6C9	100	#DCEDC8	100	#F0F4C3
200	#A5D6A7	200	#C5E1A5	200	#E6EE9C
300	#81C784	300	#AED581	300	#DCE775
400	#66BB6A	400	#9CCC65	400	#D4E157
500	#4CAF50	500	#8BC34A	500	#CDDC39
600	#43A047	600	#7CB342	600	#C0CA33
700	#388E3C	700	#689F38	700	#AFB42B
800	#2E7D32	800	#558B2F	800	#9E9D24
900	#1B5E20	900	#33691E	900	#827717
A100	#B9F6CA	A100	#CCFF90	A100	#F4FF81
A200	#69F0AE	A200	#B2FF59	A200	#EEFF41

A400	#00E676	A400	#76FF03	A400	#C6FF00
A700	#00C853	A700	#64DD17	A700	#AEEA00
yellow		amber		orange	
500	#FFEB3B	500	#FFC107	500	#FF9800
50	#FFFDE7	50	#FFF8E1	50	#FFF3E0
100	#FFF9C4	100	#FFECB3	100	#FFE0B2
200	#FFF59D	200	#FFE082	200	#FFCC80
300	#FFF176	300	#FFD54F	300	#FFB74D
400	#FFE580	400	#FFCA28	400	#FFA726
500	#FFEB3B	500	#FFC107	500	#FF9800
600	#FDD835	600	#FFB300	600	#FB8C00
700	#FBC02D	700	#FFA000	700	#F57C00
800	#F9A825	800	#FF8F00	800	#EF6C00
900	#F57F17	900	#FF6F00	900	#E65100
A100	#FFEB3B	A100	#FFC107	A100	#FF9800

A100	#FFF8D	A100	#FFE57F	A100	#FFD180
A200	#FFFF00	A200	#FFD740	A200	#FFAB40
A400	#FFEA00	A400	#FFC400	A400	#FF9100
A700	#FFD600	A700	#FFAB00	A700	#FF6D00
deepOrange		brown		grey	
500	#FF5722	500	#795548	500	#9E9E9E
50	#FBE9E7	50	#EFEBE9	50	#FAFAFA
100	#FFCCBC	100	#D7CCC8	100	#F5F5F5
200	#FFAB91	200	#BCAAA4	200	#EEEEEE
300	#FF8A65	300	#A1887F	300	#E0E0E0
400	#FF7043	400	#8D6E63	400	#BDBDBD
500	#FF5722	500	#795548	500	#9E9E9E
600	#F4511E	600	#6D4C41	600	#757575
700	#E64A19	700	#5D4037	700	#616161
800	#D84315	800	#4E342E	800	#424242

900	#BF360C	900	#3E2723	900	#212121
A100	#FF9E80				
A200	#FF6E40				
A400	#FF3D00				
A700	#DD2C00				
blueGrey					
500	#607D8B				
50	#ECEFF1				
100	#CFD8DC				
200	#B0BEC5				
300	#90A4AE				
400	#78909C				
500	#607D8B				
600	#546E7A				
700	#455A64				

800	#37474F
900	#263238