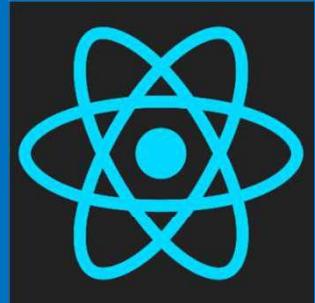


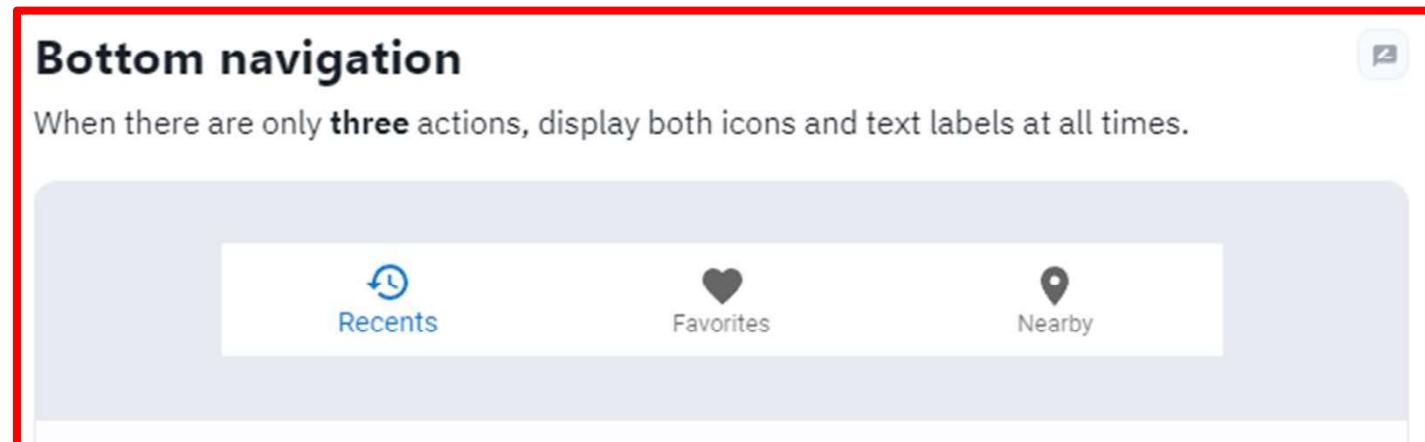
Creating Beautiful Apps with Material UI



Material UI Navigation

Bottom Navigation

- The Bottom Navigation bar allows movement between primary destinations in an app.
- Bottom navigation bars display three to five destinations at the bottom of a screen. Each destination is represented by an icon and an optional text label. When a bottom navigation icon is tapped, the user is taken to the top-level navigation destination associated with that icon.



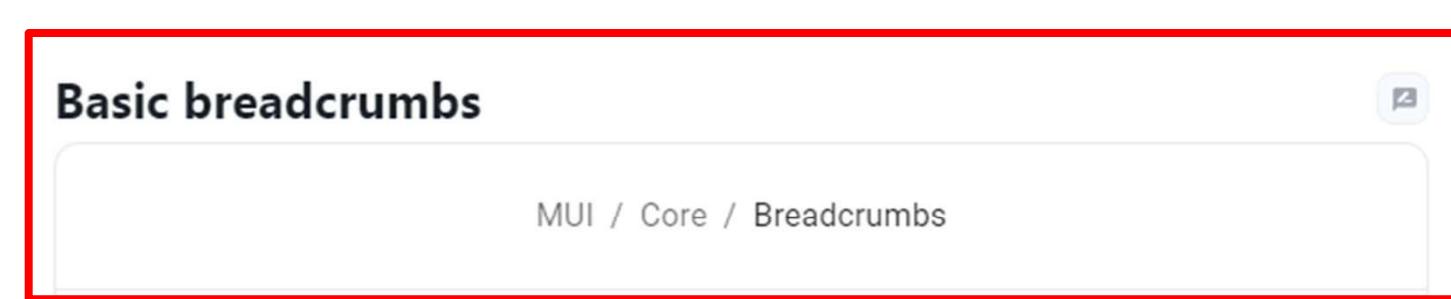
A screenshot of the Visual Studio Code interface displaying a file named `Demo01-BottomNavigation.js`. The code implements a `BottomNavigation` component from the Material UI library. It uses the `useState` hook to manage the current value and provides actions for 'Recents', 'Favorites', and 'Nearby'.

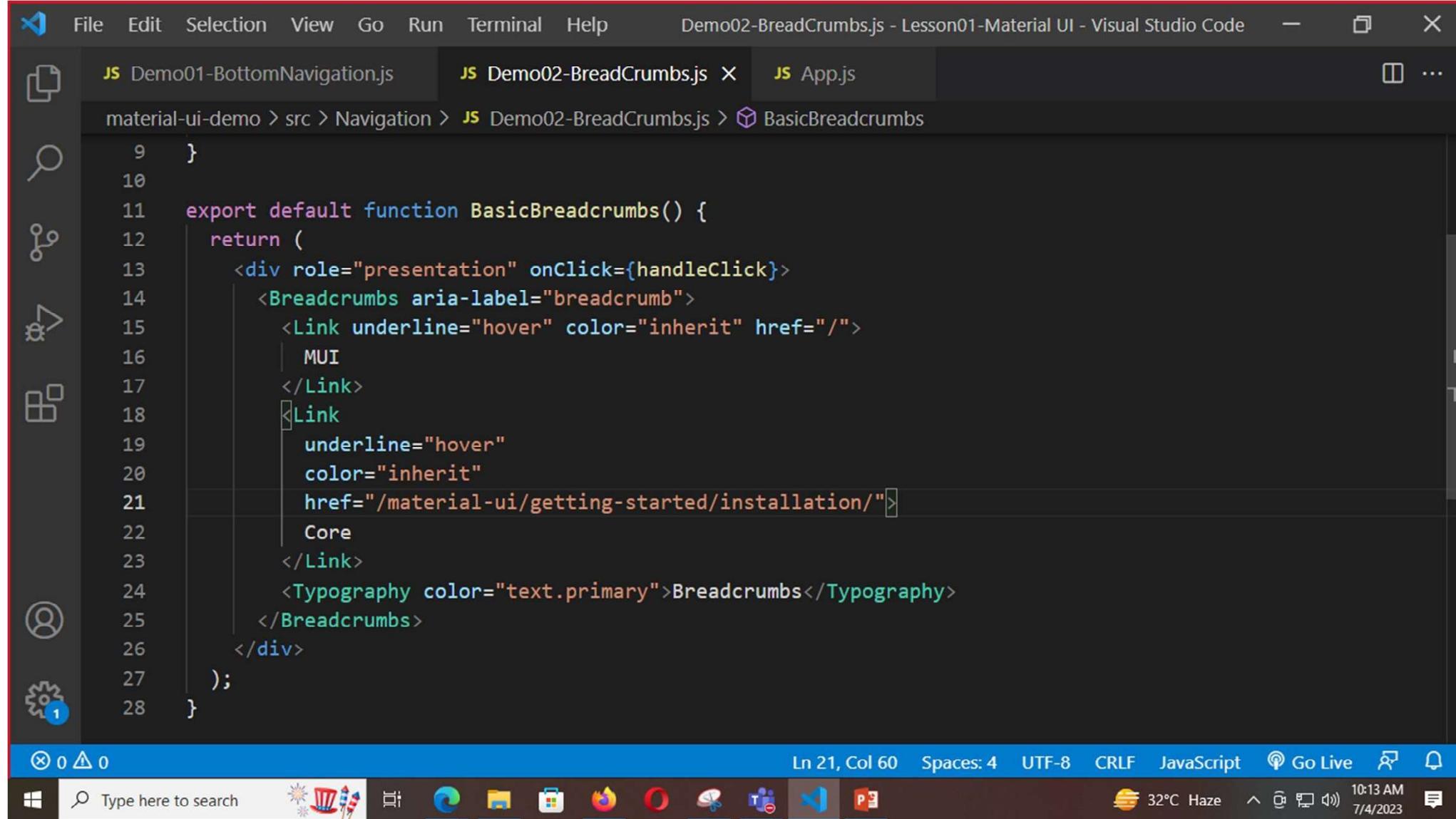
```
material-ui-demo > src > Navigation > Demo01-BottomNavigation.js > SimpleBottomNavigation
  6  import FavoriteIcon from '@mui/icons-material/Favorite';
  7  import LocationOnIcon from '@mui/icons-material/LocationOn';
  8
  9  export default function SimpleBottomNavigation() {
 10    const [value, setValue] = React.useState(0);
 11
 12    return (
 13      <Box sx={{ width: 500 }}>
 14        <BottomNavigation
 15          showLabels
 16          value={value}
 17          onChange={(event, newValue) => {
 18            setValue(newValue);
 19          }}
 20        >
 21          <BottomNavigationAction label="Recents" icon={<RestoreIcon />} />
 22          <BottomNavigationAction label="Favorites" icon={<FavoriteIcon />} />
 23          <BottomNavigationAction label="Nearby" icon={<LocationOnIcon />} />
 24        </BottomNavigation>
 25      </Box>
 26    );
  
```

The status bar at the bottom shows the following information: 0△0, Ln 16, Col 21 (5 selected), Spaces: 4, UTF-8, CRLF, JavaScript, Go Live, and system notifications. The taskbar at the bottom includes icons for File Explorer, Task View, Taskbar settings, Start button, Search, Edge browser, File Explorer, Firefox, Microsoft Edge, Task View, Taskbar settings, and a power icon. The system tray shows the date and time as 9:58 AM, 7/4/2023, with a temperature of 32°C and haze conditions.

Breadcrumbs

- A breadcrumbs is a list of links that help visualize a page's location within a site's hierarchical structure, it allows navigation up to any of the ancestors.





Demo02-BreadCrumbs.js - Lesson01-Material UI - Visual Studio Code

Demo01-BottomNavigation.js Demo02-BreadCrumbs.js X App.js

material-ui-demo > src > Navigation > Demo02-BreadCrumbs.js > BasicBreadcrumbs

```
9  }
10
11 export default function BasicBreadcrumbs() {
12   return (
13     <div role="presentation" onClick={handleClick}>
14       <Breadcrumbs aria-label="breadcrumb">
15         <Link underline="hover" color="inherit" href="/">
16           MUI
17         </Link>
18         <Link
19           underline="hover"
20           color="inherit"
21           href="/material-ui/getting-started/installation/">
22             Core
23           </Link>
24           <Typography color="text.primary">Breadcrumbs</Typography>
25         </Breadcrumbs>
26       </div>
27     );
28 }
```

Ln 21, Col 60 Spaces: 4 UTF-8 CRLF JavaScript Go Live ⚡ 🔔

Type here to search Windows Start Task View Edge File Explorer Firefox Taskbar Icons VS Code Powerpoint

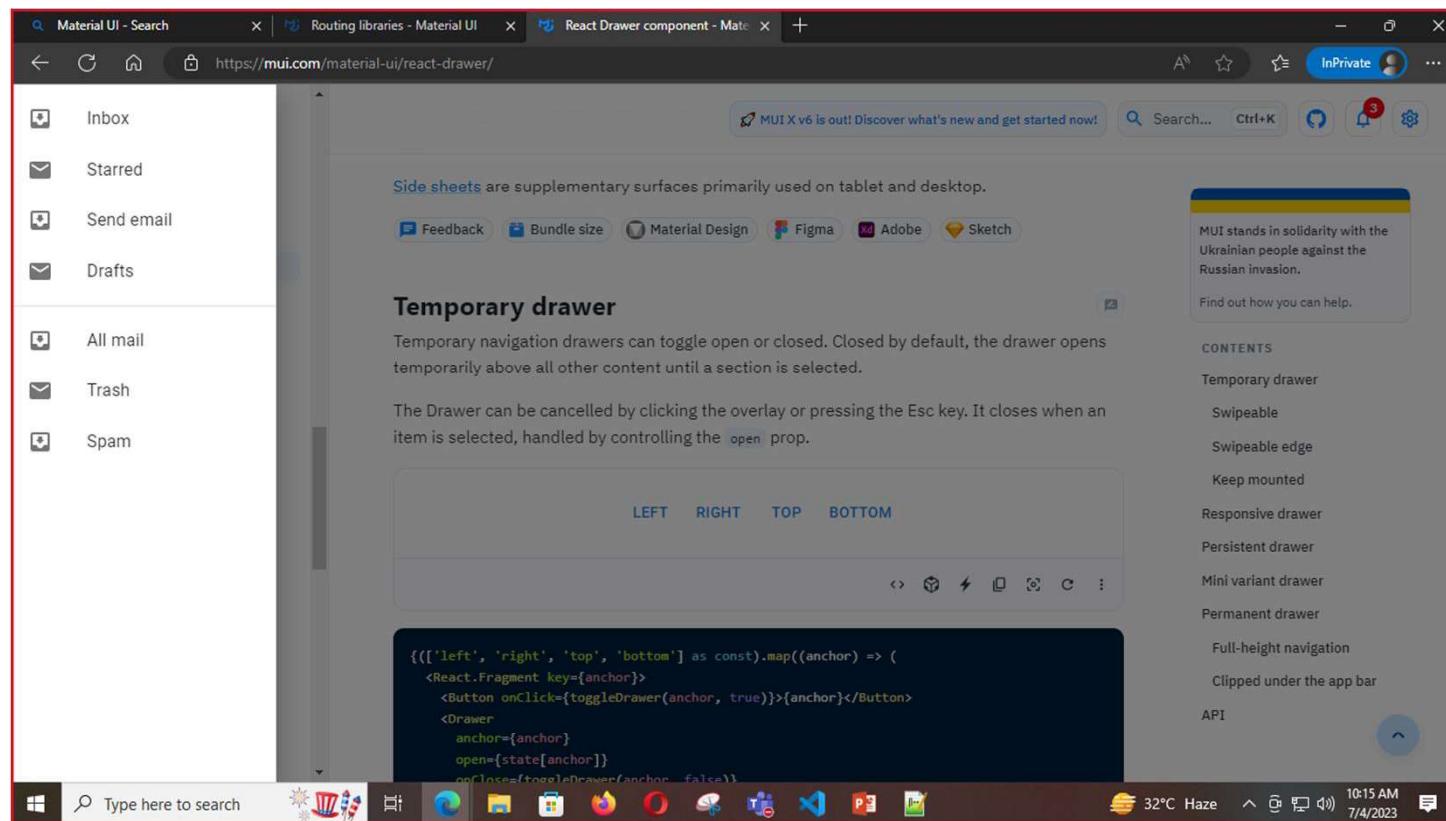
32°C Haze 10:13 AM 7/4/2023

Drawer

- The navigation drawers (or "sidebars") provide ergonomic access to destinations in a site or app functionality such as switching accounts.
- A navigation drawer can either be permanently on-screen or controlled by a navigation menu icon.

Temporary drawer

- Temporary navigation drawers can toggle open or closed. Closed by default, the drawer opens temporarily above all other content until a section is selected.
- The Drawer can be cancelled by clicking the overlay or pressing the Esc key. It closes when an item is selected, handled by controlling the open prop.



Demo03-Drawer.js - Lesson01-Material UI - Visual Studio Code

File Edit Selection View Go Run Terminal Help

Demo01-BottomNavigation.js Demo02-BreadCrumbs.js Demo03-Drawer.js App.js

material-ui-demo > src > Navigation > Demo03-Drawer.js > TemporaryDrawer

```
64
65     return (
66         <div>
67             {[ 'left', 'right', 'top', 'bottom' ].map((anchor) => (
68                 <React.Fragment key={anchor}>
69                     <Button onClick={toggleDrawer(anchor, true)}>{anchor}</Button>
70                     <Drawer
71                         anchor={anchor}
72                         open={state[anchor]}
73                         onClose={toggleDrawer(anchor, false)}
74                     >
75                         {list(anchor)}
76                     </Drawer>
77                     </React.Fragment>
78             ))}
79         </div>
80     );
81 }
```

Ln 78, Col 10 Spaces: 4 UTF-8 CRLF JavaScript Go Live ⚡ 🔍

Type here to search 32°C Haze 10:21 AM 7/4/2023

Links

- The Link component allows you to easily customize anchor elements with your theme colors and typography styles.

Basic links

The Link component is built on top of the [Typography](#) component, meaning that you can use its props.

```
Link color="inherit" variant="body2"
```

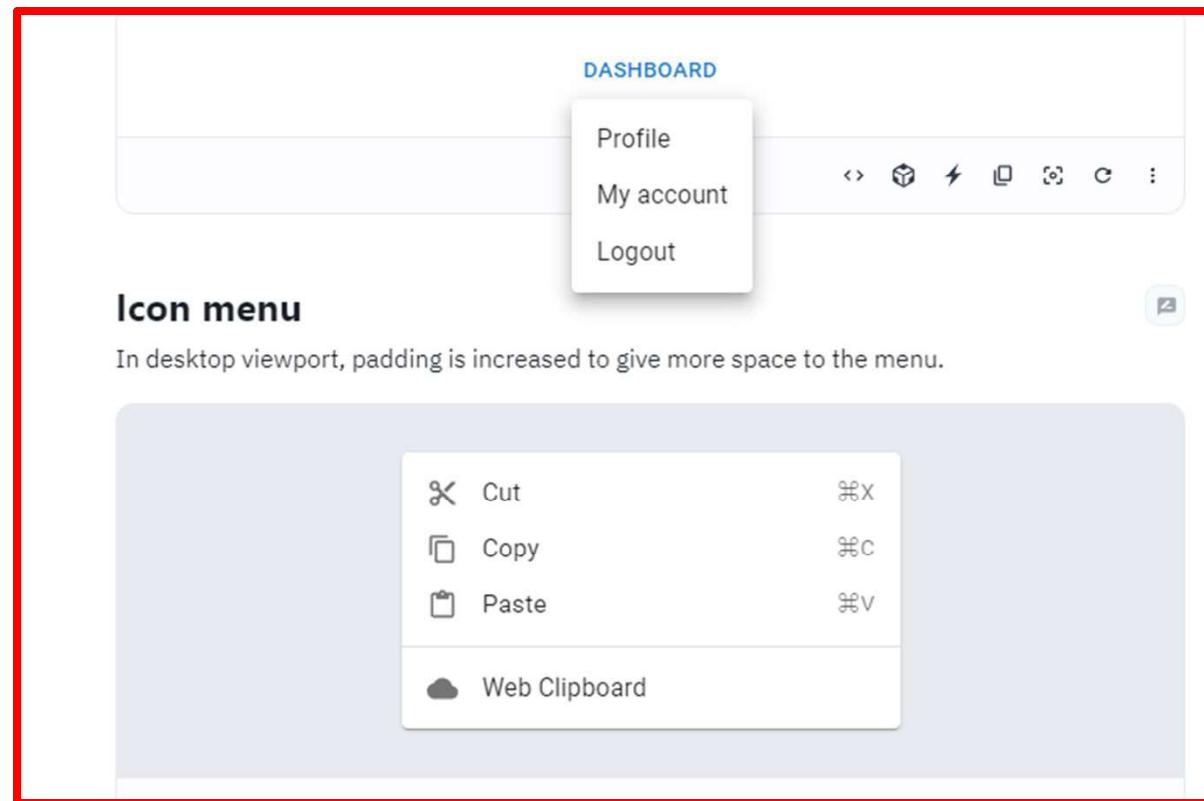
The screenshot shows a Microsoft Edge browser window with a presentation interface. The top bar includes 'Presenting...', 'Give control', 'Stop presenting', and 'Audio Code' buttons. The left sidebar has icons for file operations, search, navigation, and settings. The main content area displays a code editor with the following JavaScript code:

```
material-ui-demo > src > Navigation > Demo04-Link.js > Links
  6  const preventDefault = (event) => event.preventDefault();
  7  export default function Links() {
  8    return (
  9      <Box
 10        sx={{
 11          typography: 'body1',
 12          '& > :not(style) + :not(style)': {
 13            ml: 2,
 14          },
 15        }}
 16        onClick={preventDefault}
 17      >
 18        <Link href="#">Link</Link>
 19        <Link href="#" color="inherit">
 20          {'color="inherit"'}
 21        </Link>
 22        <Link href="#" variant="body2">
 23          {'variant="body2"'}
 24        </Link>
 25      </Box>
 26    );
  
```

The status bar at the bottom shows 'Ln 7, Col 1' and various system icons.

Menu

- Menus display a list of choices on temporary surfaces.
- A menu displays a list of choices on a temporary surface. It appears when the user interacts with a button, or other control.

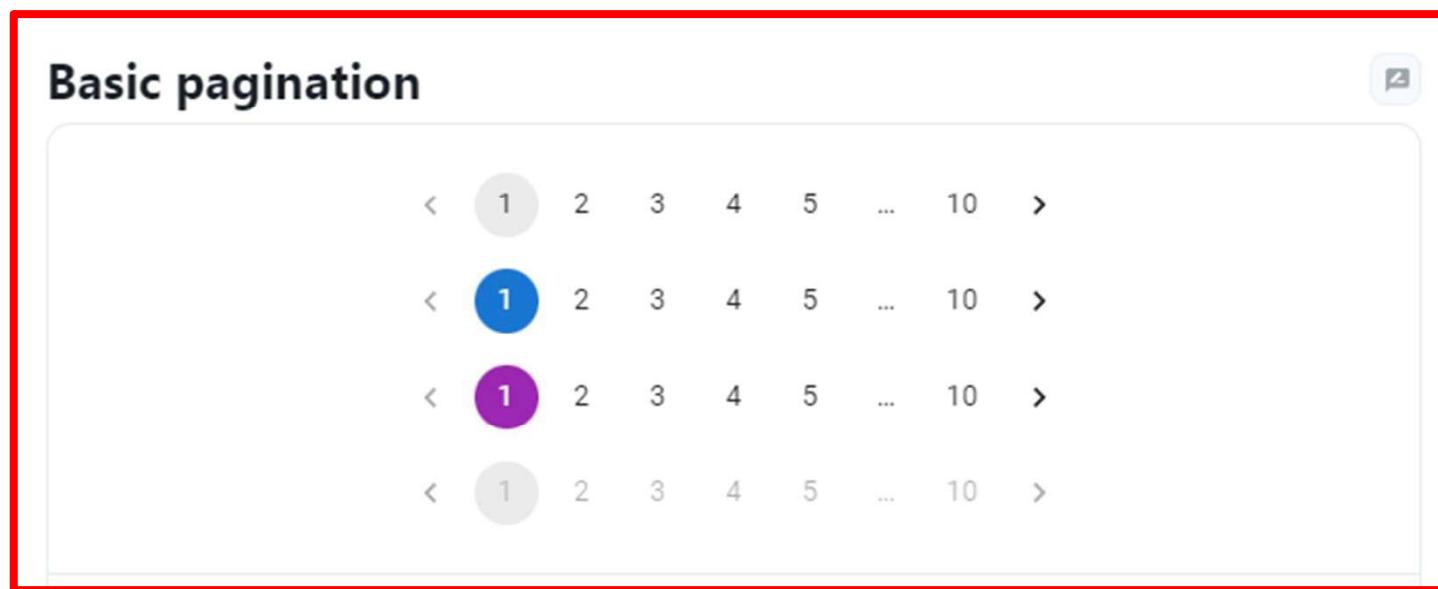


```
File Edit Selection View Go Run Terminal Help
Demo05-Menu.js - Lesson01-Material UI - Visual Studio Code
JS Demo01-BottomNavigation.js JS Demo02-BreadCrumbs.js JS Demo03-Drawer.js JS Demo04-Link.js JS Demo05-Menu.js X JS App.js ...
material-ui-demo > src > Navigation > JS Demo05-Menu.js > BasicMenu
17   <div>
18     <Button
19       id="basic-button"
20       aria-controls={open ? 'basic-menu' : undefined}
21       aria-haspopup="true"
22       aria-expanded={open ? 'true' : undefined}
23       onClick={handleClick}
24     >
25       Dashboard
26     </Button>
27     <Menu
28       id="basic-menu"
29       anchorEl={anchorEl}
30       open={open}
31       onClose={handleClose}
32       MenuListProps={{
33         'aria-labelledby': 'basic-button',
34       }}
35     >
36       <MenuItem onClick={handleClose}>Profile</MenuItem>
37       <MenuItem onClick={handleClose}>My account</MenuItem>
38       <MenuItem onClick={handleClose}>Logout</MenuItem>
39     </Menu>
40   </div>
41 );
42 }
```

Ln 41, Col 5 Spaces: 4 UTF-8 CRLF JavaScript ⚡ Go Live 🔍 32°C Haze 10:39 AM 7/4/2023

Pagination

- The Pagination component enables the user to select a specific page from a range of pages.



Demo06-Pagination.js - Lesson01-Material UI - Visual Studio Code

File Edit Selection View Go Run Terminal Help

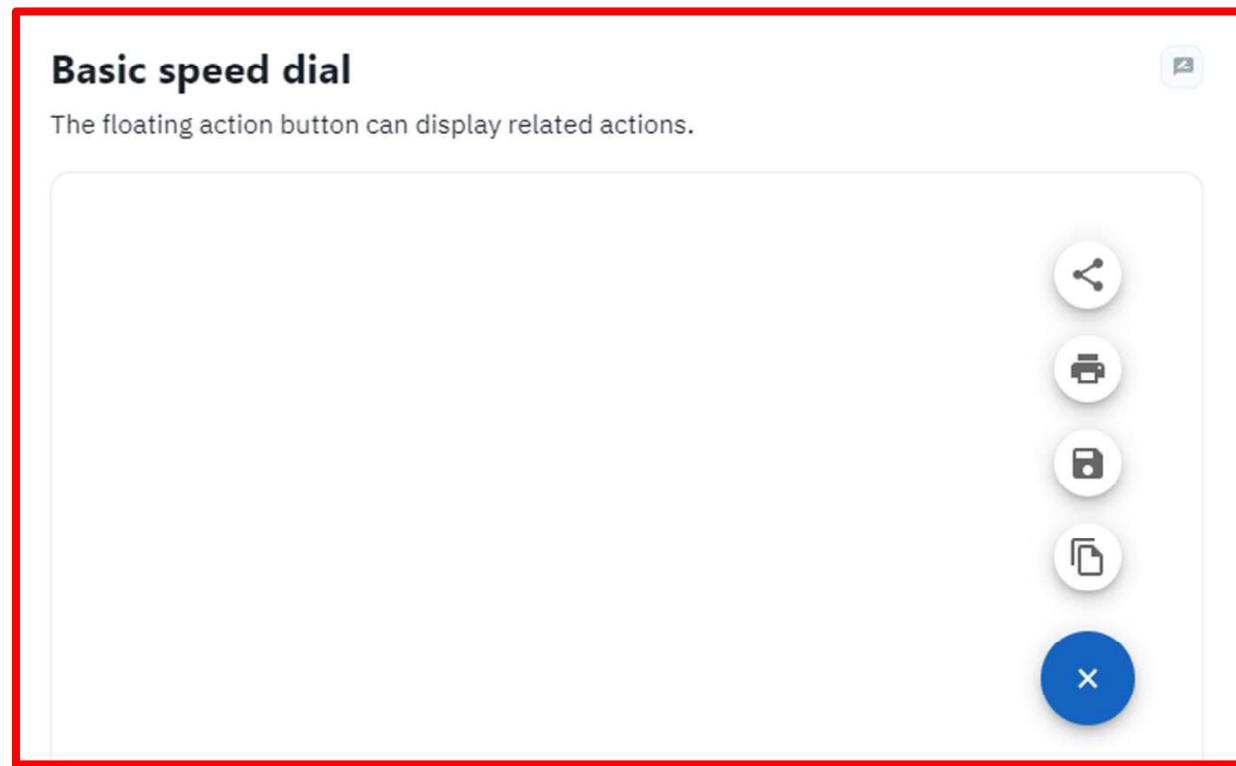
03-Drawer.js Demo04-Link.js Demo05-Menu.js Demo06-Pagination.js App.js # App.css ...

```
material-ui-demo > src > Navigation > Demo06-Pagination.js > BasicPagination
  1 import * as React from 'react';
  2 import Pagination from '@mui/material/Pagination';
  3 import Stack from '@mui/material/Stack';
  4
  5 export default function BasicPagination() {
  6   return (
  7     <Stack spacing={2}>
  8       <Pagination count={10} />
  9       <Pagination count={10} color="primary" />
 10       <Pagination count={10} color="secondary" />
 11       <Pagination count={10} disabled />
 12     </Stack>
 13   );
 14 }
```

Ln 14, Col 2 Spaces: 4 UTF-8 CRLF JavaScript Go Live ⚡ 32°C Haze 10:43 AM 7/4/2023

Speed Dial

- When pressed, a floating action button can display three to six related actions in the form of a Speed Dial.
- If more than six actions are needed, something other than a FAB should be used to present them.



A screenshot of the Visual Studio Code interface, showing the file `Demo07-SpeedDial.js` open. The code implements a `SpeedDial` component from the Material-UI library. The interface includes a sidebar with icons for file operations, search, and other tools. The status bar at the bottom shows the current file path, line and column numbers, encoding, and system information like temperature and battery level.

```
material-ui-demo > src > Navigation > Demo07-SpeedDial.js > BasicSpeedDial
  9 import ShareIcon from '@mui/icons-material/Share';
 10
 11 const actions = [
 12   { icon: <FileCopyIcon />, name: 'Copy' },
 13   { icon: <SaveIcon />, name: 'Save' },
 14   { icon: <PrintIcon />, name: 'Print' },
 15   { icon: <ShareIcon />, name: 'Share' },
 16 ];
 17
 18 export default function BasicSpeedDial() {
 19   return (
 20     <Box sx={{ height: 320, transform: 'translateZ(0px)', flexGrow: 1 }}>
 21       <SpeedDial
 22         ariaLabel="SpeedDial basic example"
 23         sx={{ position: 'absolute', bottom: 16, right: 16 }}
 24         icon={<SpeedDialIcon />}
 25       >
 26         {actions.map((action) => (
 27           <SpeedDialAction
 28             key={action.name}
 29             icon={action.icon}
 30             tooltipTitle={action.name}
 31           />
 32         ))}
 33       </SpeedDial>
 34     </Box>
  
```

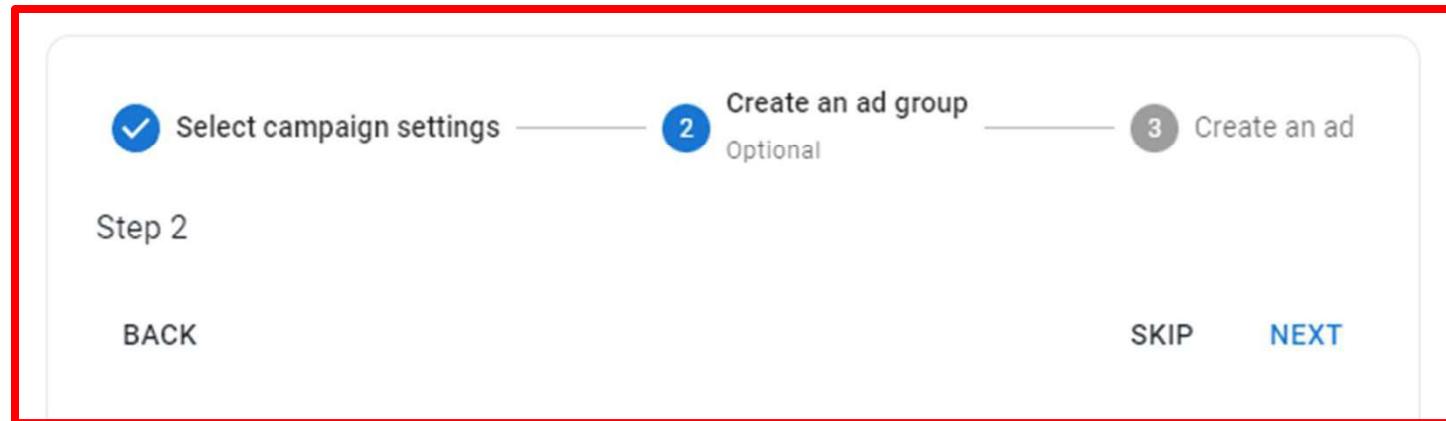
Stepper

- **Stepper** Shows the indication of Where U [In the sense in which Part of the App] or Like Progress in the Application

- Steppers convey progress through numbered steps. It provides a wizard-like workflow.
- Steppers display progress through a sequence of logical and numbered steps. They may also be used for navigation. Steppers may display a transient feedback message after a step is saved.
 - **Types of Steps:** Editable, Non-editable, Mobile, Optional
 - **Types of Steppers:** Horizontal, Vertical, Linear, Non-linear

Horizontal stepper

- Horizontal steppers are ideal when the contents of one step depend on an earlier step.
- Avoid using long step names in horizontal steppers.
- Linear
 - A linear stepper allows the user to complete the steps in sequence.
 - The Stepper can be controlled by passing the current step index (zero-based) as the activeStep prop. Stepper orientation is set using the orientation prop.

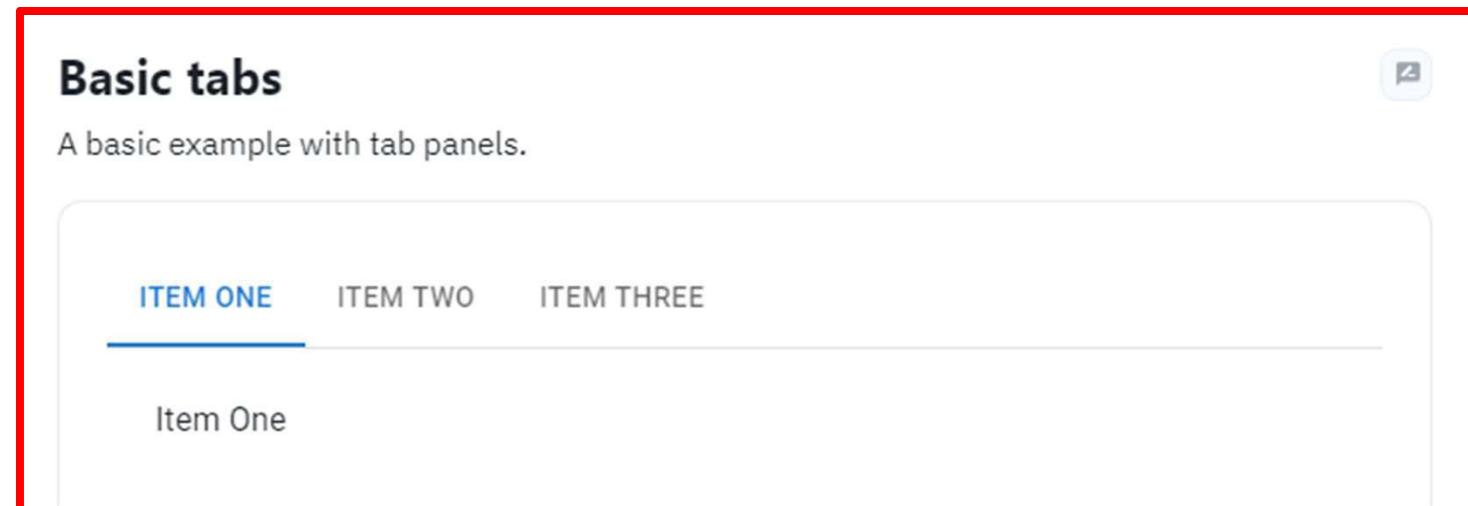


A screenshot of the Visual Studio Code interface. The title bar reads "Demo08-Stepper.js - Lesson01-Material UI - Visual Studio Code". The left sidebar has icons for file operations, search, navigation, and other tools. The main editor area shows a portion of the "Demo08-Stepper.js" file, which contains code for a HorizontalLinearStepper component using Material-UI. The code includes logic for active steps, optional steps, and completed steps. The status bar at the bottom shows file statistics (Ln 115, Col 2), encoding (UTF-8), line endings (CRLF), language (JavaScript), and a Go Live button. The taskbar at the bottom includes the Start button, a search bar, and pinned application icons for Edge, File Explorer, Task View, Firefox, File History, Teams, Power BI, and OneNote.

```
material-ui-demo > src > Navigation > Demo08-Stepper.js > HorizontalLinearStepper
58     <Box sx={{ width: '100%' }}>
59       <Stepper activeStep={activeStep}>
60         {steps.map((label, index) => {
61           const stepProps = {};
62           const labelProps = {};
63           if (isStepOptional(index)) {
64             labelProps.optional =
65               <Typography variant="caption">Optional</Typography>
66           };
67           if (isStepSkipped(index)) {
68             stepProps.completed = false;
69           }
70           return (
71             <Step key={label} {...stepProps}>
72               <StepLabel {...labelProps}>{label}</StepLabel>
73             </Step>
74           );
75         ))}
76       </Stepper>
77     {activeStep === steps.length ? (
78       <React.Fragment>
79         <Typography sx={{ mt: 2, mb: 1 }}>
80           All steps completed - you're finished
81         </Typography>
82         <Box sx={{ display: 'flex', flexDirection: 'row', pt: 2 }}>
```

Tabs

- Tabs make it easy to explore and switch between different views.
- Tabs organize and allow navigation between groups of content that are related and at the same level of hierarchy.

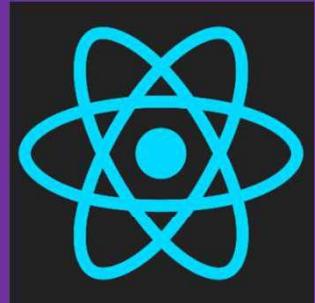


```
File Edit Selection View Go Run Terminal Help Demo09-Tabs.js - Lesson01-Material UI - Visual Studio Code
navigation.js Demo07-SpeedDial.js Demo08-Stepper.js Demo09-Tabs.js App.js # App.css ...
material-ui-demo > src > Navigation > Demo09-Tabs.js > BasicTabs
+/ 48 return (
49     <Box sx={{ width: '100%' }}>
50         <Box sx={{ borderBottom: 1, borderColor: 'divider' }}>
51             <Tabs value={value} onChange={handleChange} aria-label="basic tabs example">
52                 <Tab label="Item One" {...a11yProps(0)} />
53                 <Tab label="Item Two" {...a11yProps(1)} />
54                 <Tab label="Item Three" {...a11yProps(2)} />
55             </Tabs>
56         </Box>
57         <TabPanel value={value} index={0}>
58             Item One
59         </TabPanel>
60         <TabPanel value={value} index={1}>
61             Item Two
62         </TabPanel>
63         <TabPanel value={value} index={2}>
64             Item Three
65         </TabPanel>
66     </Box>
67 );
```

Ln 57, Col 29 (5 selected) Spaces: 4 UTF-8 CRLF JavaScript ⚡ Go Live 🔍 ⓘ

Type here to search

32°C Haze 11:05 AM 7/4/2023



Material UI Layout

- Layout Management is a Specification which determines the Placement and Size of the Components on the UI.
- Eg: Flow Layout, Border Layout, Box Layout, Grid Layout, GridBag Layout, CardLayout, Spring Layout, Mansory Layout, Water Fall Layout ...

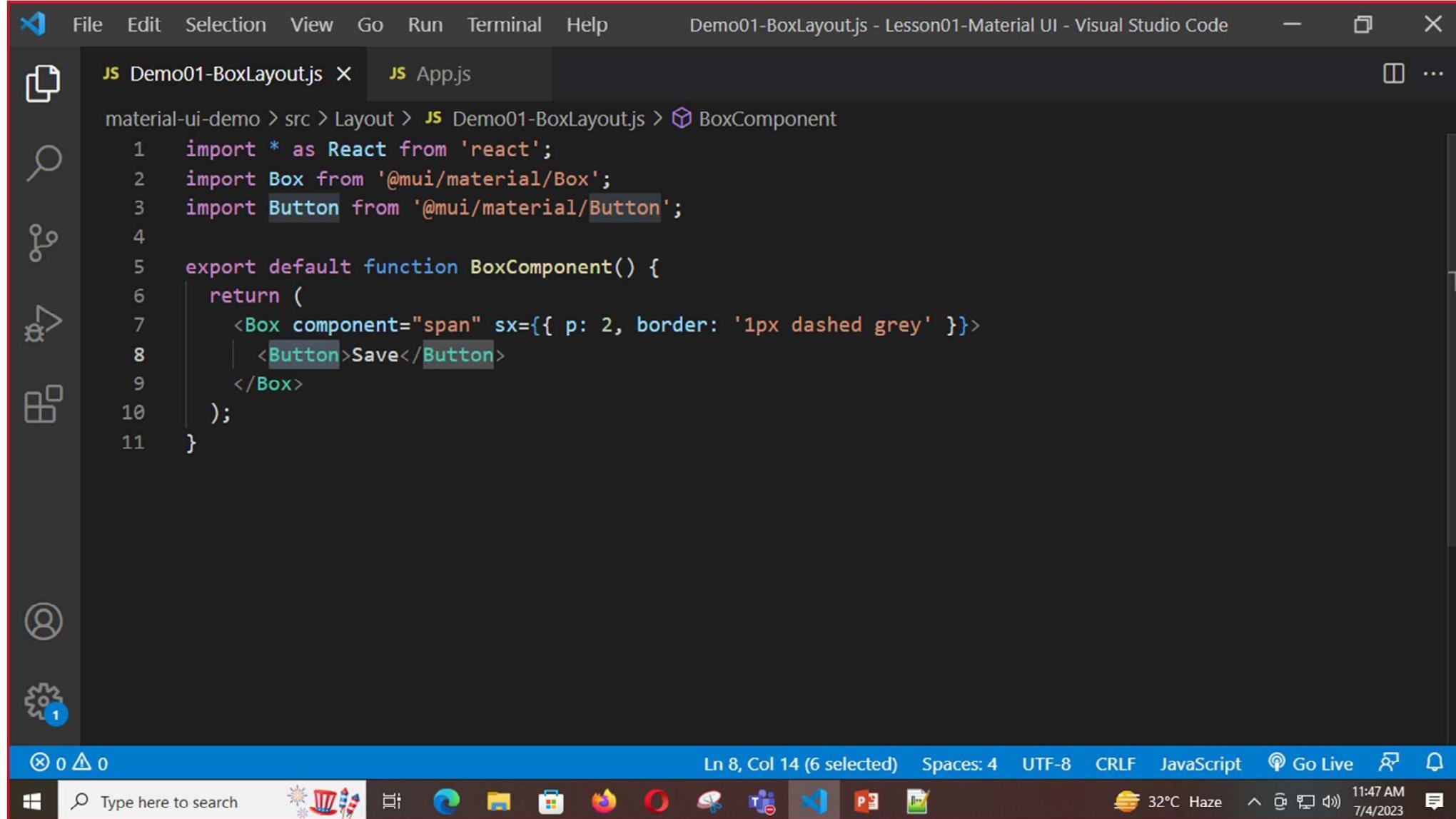
Box

- The Box component serves as a wrapper component for most of the CSS utility needs.
- The Box component packages all the style functions that are exposed in [@mui/system](#)

Overriding Material UI components

The Box component wraps your component. It creates a new DOM element, a `<div>` that by default can be changed with the `component` prop. Let's say you want to use a `` instead:





```
File Edit Selection View Go Run Terminal Help Demo01-BoxLayout.js - Lesson01-Material UI - Visual Studio Code
JS Demo01-BoxLayout.js X JS App.js
material-ui-demo > src > Layout > JS Demo01-BoxLayout.js > BoxComponent
1 import * as React from 'react';
2 import Box from '@mui/material/Box';
3 import Button from '@mui/material/Button';
4
5 export default function BoxComponent() {
6   return (
7     <Box component="span" sx={{ p: 2, border: '1px dashed grey' }}>
8       <Button>Save</Button>
9     </Box>
10  );
11}
```

Ln 8, Col 14 (6 selected) Spaces: 4 UTF-8 CRLF JavaScript ⚡ Go Live 🔍 📲 11:47 AM 7/4/2023

Container

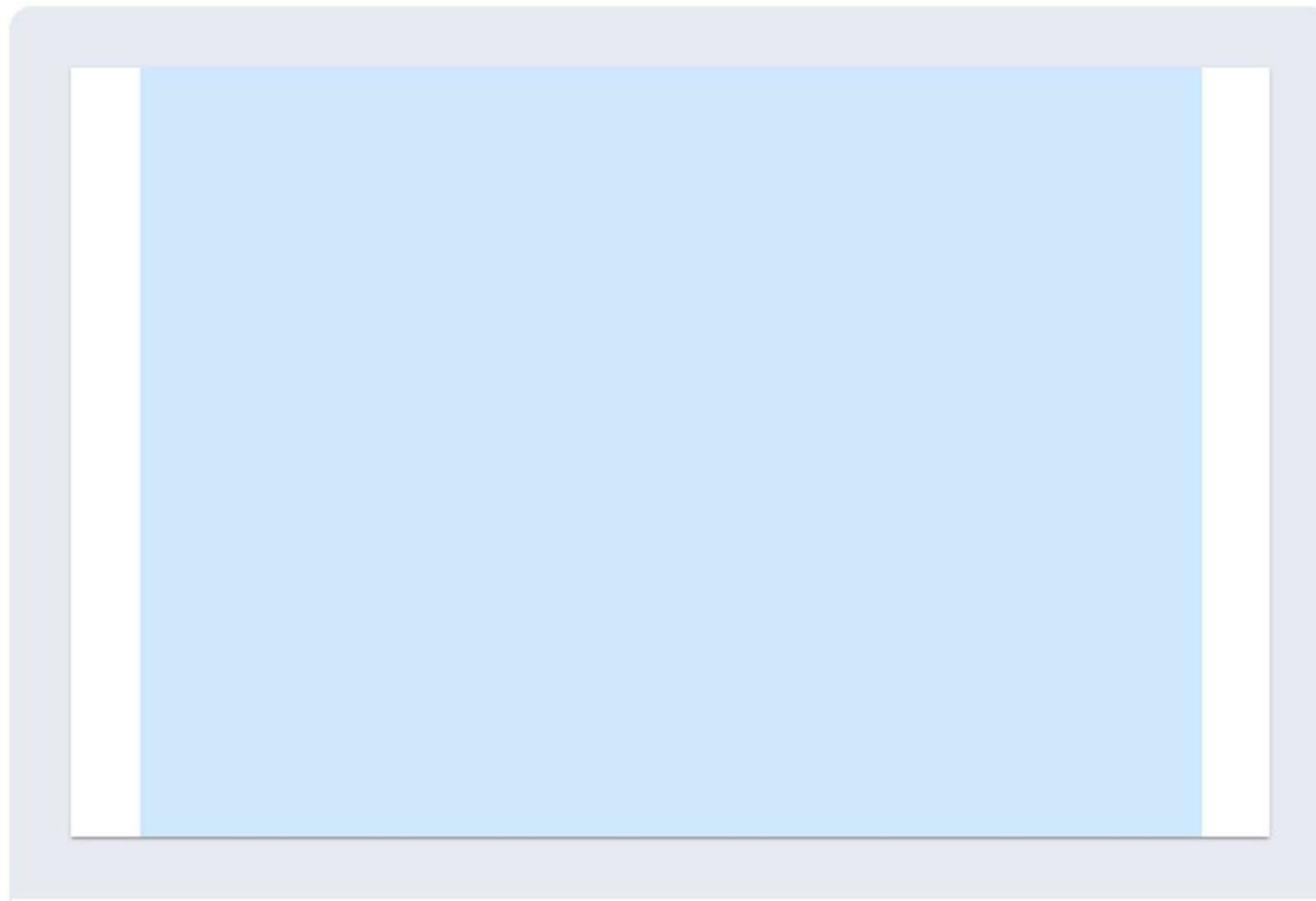
- The container centers your content horizontally. It's the most basic layout element.
- While containers can be nested, most layouts do not require a nested container.

Fluid

Fluid



A fluid container width is bounded by the `maxWidth` prop value.





File Edit Selection View Go Run Terminal Help

Demo02-FluidContainer.js - Lesson01-Material UI - Visual Studio Code

- □ X



JS Demo01-BoxLayout.js

JS Demo02-FluidContainer.js X

JS Demo03-FixedContainer.js

JS App.js

□ ...

```
material-ui-demo > src > Layout > JS Demo02-FluidContainer.js
1 import * as React from 'react';
2 import CssBaseline from '@mui/material/CssBaseline';
3 import Box from '@mui/material/Box';
4 import Container from '@mui/material/Container';

5
6 export default function SimpleContainer() {
7   return (
8     <React.Fragment>
9       <CssBaseline />
10      <Container maxWidth="sm">
11        <Box sx={{ bgcolor: '#cfe8fc', height: '100vh' }} />
12      </Container>
13    </React.Fragment>
14  );
15}
```



⊗ 0 △ 0

Ln 10, Col 30 (2 selected)

Spaces: 4

UTF-8

CRLF

JavaScript

⊕ Go Live

⟳ ⏴



Type here to search



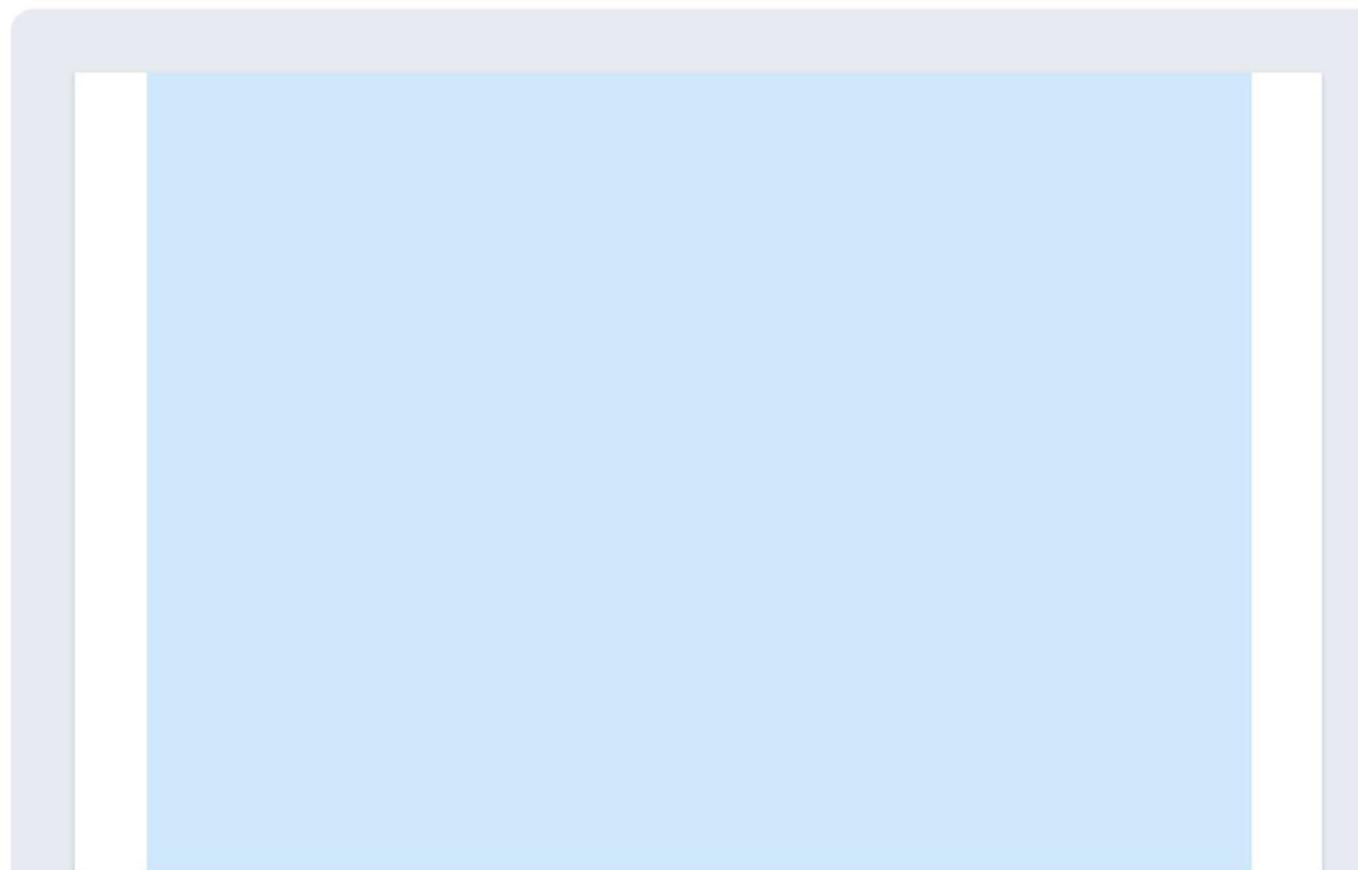
32°C Haze

11:53 AM
7/4/2023

Fixed

Fixed

If you prefer to design for a fixed set of sizes instead of trying to accommodate a fully fluid viewport, you can set the `fixed` prop. The max-width matches the min-width of the current breakpoint.





File Edit Selection View Go Run Terminal Help

Demo03-FixedContainer.js - Lesson01-Material UI - Visual Studio Code

-



JS Demo01-BoxLayout.js

JS Demo02-FluidContainer.js

JS Demo03-FixedContainer.js X

JS App.js

...

material-ui-demo > src > Layout > JS Demo03-FixedContainer.js > FixedContainer

```
1 import * as React from 'react';
2 import CssBaseline from '@mui/material/CssBaseline';
3 import Box from '@mui/material/Box';
4 import Container from '@mui/material/Container';

5
6 export default function FixedContainer() {
7   return (
8     <React.Fragment>
9       <CssBaseline />
10      <Container fixed>
11        <Box sx={{ bgcolor: '#cfe8fc', height: '100vh' }} />
12      </Container>
13    </React.Fragment>
14  );
15}
```



⊗ 0 △ 0

Ln 10, Col 23 (5 selected)

Spaces: 4

UTF-8

CRLF

JavaScript

⊕ Go Live



Type here to search



32°C Haze



11:53 AM
7/4/2023

- The Material Design responsive layout grid adapts to screen size and orientation, ensuring consistency across layouts.
- The grid creates visual consistency between layouts while allowing flexibility across a wide variety of designs. Material Design's responsive UI is based on a 12-column grid layout.

How it works

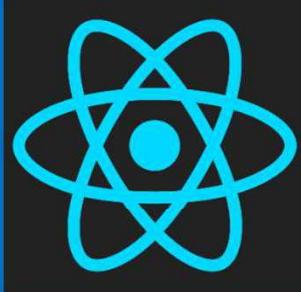
1. It uses [CSS's Flexible Box module](#) for high flexibility.
2. There are two types of layout: *containers* and *items*.
3. Item widths are set in percentages, so they're always fluid and sized relative to their parent element.
4. Items have padding to create the spacing between individual items.
5. There are five grid breakpoints: xs, sm, md, lg, and xl.
6. Integer values can be given to each breakpoint, indicating how many of the 12 available columns are occupied by the component when the viewport width satisfies the [breakpoint constraints](#).

Basic grid

Column widths are integer values between 1 and 12; they apply at any breakpoint and indicate how many columns are occupied by the component.

A value given to a breakpoint applies to all the other breakpoints wider than it (unless overridden, as you can read later in this page). For example, `xs={12}` sizes a component to occupy the whole viewport width regardless of its size.

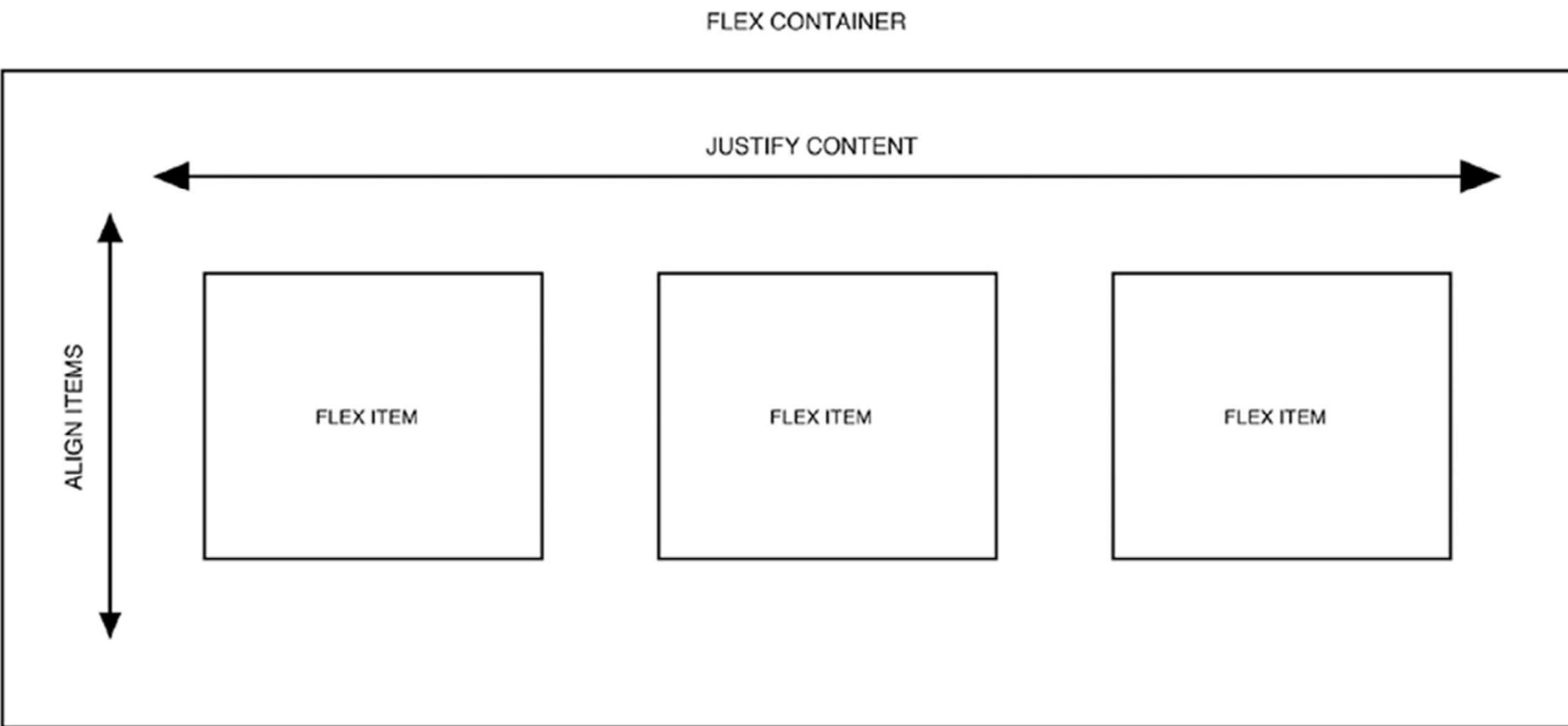




Flex Box

Flexbox

- There was once a time when web development was a lot simpler, as the number of different devices and screen sizes were limited.
- With the introduction of smartphones in 2007, and the wave of different screen sizes that followed, a shift began toward the responsive web.
- CSS3 introduced a new layout mode (an alternative to floats and positioning) called flexbox, which is an easy and responsive method of arranging elements on a page.
- To use flexbox, you simply have to specify the CSS attribute `display: flex` on the container elements, and any elements within the container (also called flex items) will automatically align into separate columns.



The Flex Attribute

- Once the flex container has been set up, the elements inside the container (the flex items) can have a flex property set against them.
- The flex property is a combination (or shorthand) of the flex-grow, flex-shrink, and flex-basis properties.
- These three properties are responsible for determining how much space flex items should be taking up within the container.

1. **flex-grow:** Number value that specifies how much the item will grow relative to the rest of the children within the container
2. **flex-shrink:** Number value that specifies how much the item will shrink relative to the rest of the children within the container
3. **flex-basis:** The length of the item; can be auto, inherit or a number followed by a length unit

The default values for the flex attribute are 0, 1, auto. This means that flex-grow is set to 0; flex-shrink is set to 1; and the basis is auto.

align-items

The align-items attribute aligns items vertically within a flexbox.

- **center**: Positions the children in the center of the container
- **flex-start**: Positions the children at the beginning (top) of the container
- **flex-end**: Positions the children at the end (bottom) of the container
- **baseline**: Positions the children so that the baselines align
- **stretch (*default*)**: The children stretch to fill the container.

justify-content

justify-content will position the flex items horizontally.

- If you struggle trying to remember the difference between align and justify, try to remember that justify positions flex items in the same way that the justify positioning works within Microsoft Word.

- center: Positions the flex items in the center of the container
- flex-start (*default*): Positions the flex items at the beginning (left) of the container
- flex-end: Positions the flex items at the end (right) of the container
- space-between: Spreads the flex items evenly across the width of the container
- space-around: Spreads the flex items evenly across the width of the container, but with space around the edges of the items

flex-direction

When setting a container to flex, the default direction is row, meaning the children will display side by side horizontally. Using the `flex-direction` attribute, you can change the default direction of the children to any of the following values:

- `row` (*default*): Positions the children next to each other horizontally
- `row-reverse`: Positions the children next to each other horizontally, but in reverse order
- `column`: Positions the children under each other vertically, as a column
- `column-reverse`: Positions the children under each other vertically, as a column, but in reverse order

flex-wrap

The `flex-wrap` attribute specifies whether the flex items remain in the same row, and overflow once there are too many, or whether they wrap onto the next line. The attribute has three values:

- `nowrap` (*default*): Items will not wrap.
- `wrap`: Items will wrap, if needed, in relation to the direction set by the `flex-direction` attribute.
- `wrap-reverse`: Items will wrap, if needed, in reverse order.

File Edit Selection View Go Run Terminal Help Demo04-GridLayoutOrFlexLayout.js - Lesson01-Material UI - Visual Studio Code

JS Demo01-BoxLayout.js JS Demo02-FluidContainer.js JS Demo04-GridLayoutOrFlexLayout.js X JS Demo03-FixedContainer.js JS App.js

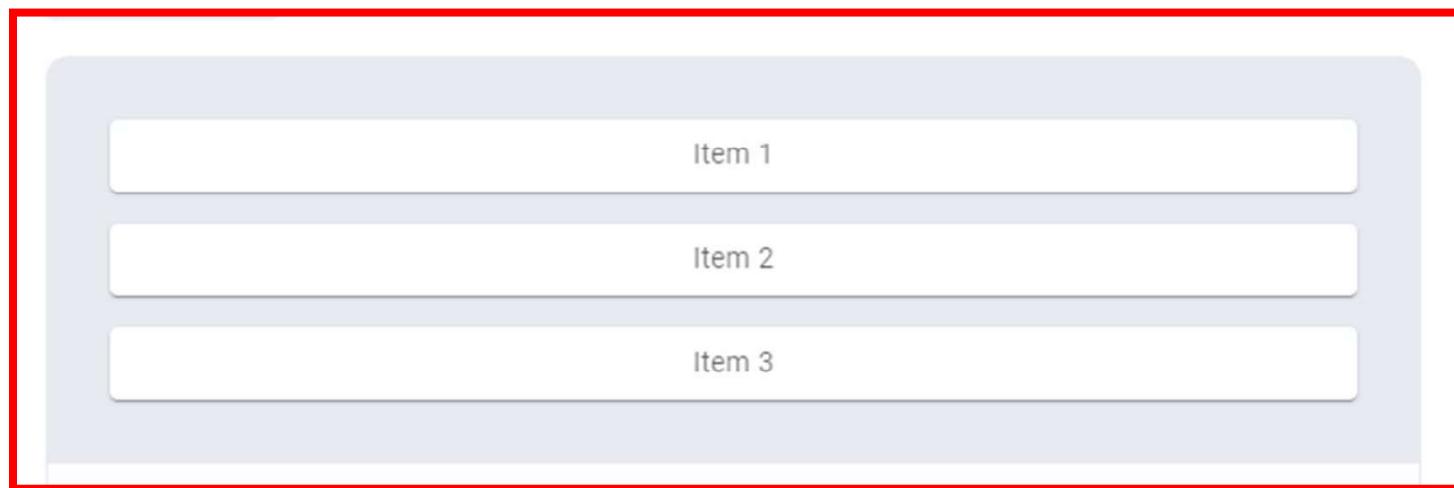
material-ui-demo > src > Layout > JS Demo04-GridLayoutOrFlexLayout.js > BasicGrid

```
6
7  const Item = styled(Paper)(({ theme }) => ({
8    backgroundColor: theme.palette.mode === 'dark' ? '#1A2027' : '#fff',
9    ...theme.typography.body2,
10   padding: theme.spacing(1),
11   textAlign: 'center',
12   color: theme.palette.text.secondary,
13 }));
14
15 export default function BasicGrid() {
16   return (
17     <Box sx={{ flexGrow: 1 }}>
18       <Grid container spacing={2}>
19         <Grid item xs={8}>
20           <Item>x8</Item>
21         </Grid>
22         <Grid item xs={4}>
23           <Item>x4</Item>
24         </Grid>
25         <Grid item xs={4}>
26           <Item>x4</Item>
27         </Grid>
28         <Grid item xs={8}>
29           <Item>x8</Item>
30         </Grid>
31       </Grid>
32     </Box>
33   )
34 }
```

Ln 28, Col 25 (1 selected) Spaces: 4 UTF-8 CRLF JavaScript ⚡ Go Live 🔍 Type here to search 35°C Haze 12:09 PM 7/4/2023

Stack

- Stack is a container component for arranging elements vertically or horizontally.
- The Stack component manages the layout of its immediate children along the vertical or horizontal axis, with optional spacing and dividers between each child.



Demo05-StackLayout.js - Lesson01-Material UI - Visual Studio Code

```
material-ui-demo > src > Layout > Demo05-StackLayout.js > BasicStack
  6
  7  const Item = styled(Paper)(({ theme }) => ({
  8    backgroundColor: theme.palette.mode === 'dark' ? '#1A2027' : '#fff',
  9    ...theme.typography.body2,
 10   padding: theme.spacing(1),
 11   textAlign: 'center',
 12   color: theme.palette.text.secondary,
 13 }));
 14
 15 export default function BasicStack() {
 16   return (
 17     <Box sx={{ width: '100%' }}>
 18       <Stack spacing={2}>
 19         <Item>Item 1</Item>
 20         <Item>Item 2</Item>
 21         <Item>Item 3</Item>
 22       </Stack>
 23     </Box>
 24   );
 25 }
```

Ln 25, Col 2 Spaces: 4 UTF-8 CRLF JavaScript Go Live ⚡ 🔍

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Image List

- The Image List displays a collection of images in an organized grid.
- Image lists represent a collection of items in a repeated pattern. They help improve the visual comprehension of the content they hold.

Standard image list

Standard image lists are best for items of equal importance. They have a uniform container size, ratio, and spacing.



The screenshot shows a Microsoft Studio Code interface with a dark theme. The top bar includes icons for file operations, presentation modes (Presenting..., Give control, Stop presenting), and a tab labeled 'Studio Code'. The left sidebar has icons for file operations, search, navigation, and settings, with the settings icon having a blue notification badge with the number '1'.

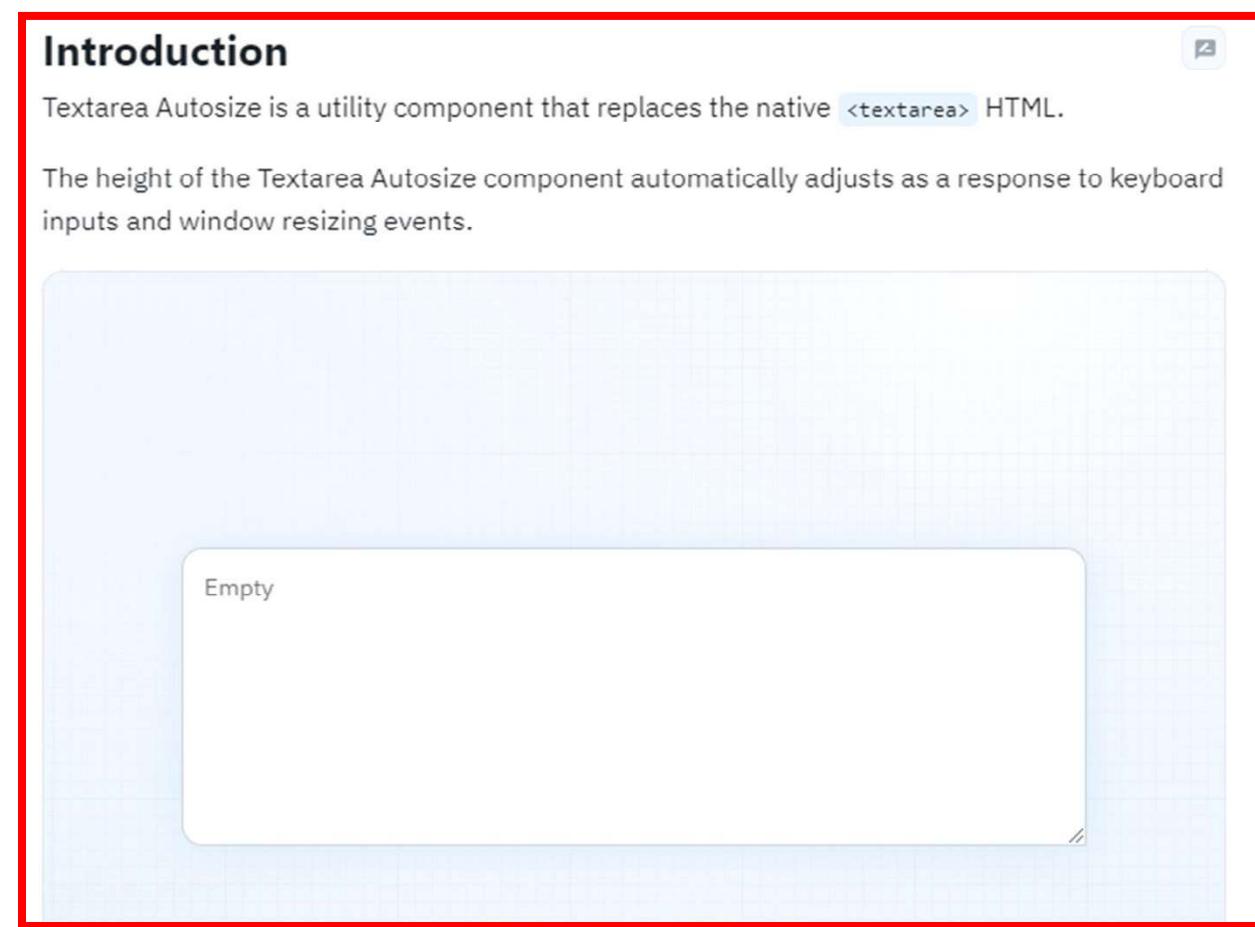
The main editor area displays a JavaScript file named 'Demo06-ImageList.js'. The code defines a component 'StandardImageList' that renders an 'ImageList' component from the '@mui/material' library. The 'ImageList' component is styled with 'sx' to have a width of 500 and a height of 450, with 3 columns and a row height of 164 pixels. It uses the 'quilted' variant. The 'ImageList' item is mapped from 'itemData' and rendered as an 'ImageListItem' with an 'img' tag. The 'img' tag has 'src' and 'srcSet' attributes set to URLs for different image sizes, an 'alt' attribute, and a 'loading' attribute set to 'lazy'. The code ends with a closing 'ImageList' tag and a closing brace for the component's return value.

```
material-ui-demo > src > Layout > Demo06-ImageList.js > StandardImageList
1 import * as React from 'react';
2 import ImageList from '@mui/material/ImageList';
3 import ImageListItem from '@mui/material/ImageListItem';
4
5 export default function StandardImageList() {
6   return (
7     <ImageList sx={{ width: 500, height: 450 }} cols={3} rowHeight={164} variant="quilted">
8       {itemData.map((item) => (
9         <ImageListItem key={item.img}>
10           <img
11             src={`${item.img}?w=164&h=164&fit=crop&auto=format`}
12             srcSet={`${item.img}?w=164&h=164&fit=crop&auto=format&dpr=2 2x`}
13             alt={item.title}
14             loading="lazy"
15           />
16           </ImageListItem>
17       ))}
18     </ImageList>
19   );
20 }
21
```

The status bar at the bottom shows file statistics (Ln 18, Col 17, Spaces: 4, CRLF, JavaScript), a Go Live button, and system information (35°C Haze, 12:23 PM, 7/4/2023). The taskbar at the very bottom includes icons for File Explorer, Task View, Edge, File History, File Explorer, Task View, File History, and a few other applications.

Textarea Autosize

- The Textarea Autosize component gives you a textarea HTML element that automatically adjusts its height to match the length of the content within.



Minimum height

Use the `minRows` prop to define the minimum height of the component:

```
Minimum 3 rows
```



```
<StyledTextarea  
  aria-label="minimum height"  
  minRows={3}  
  placeholder="Minimum 3 rows"  
/>
```

