MUI | Lecture 1

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Agenda

- What is MUI
- Introduction to MUI Ecosystem
- How to setup?
- Components discovery
- Layout

What is MUI?

- MUI stands for Material UI — a popular React component library that implements Google's Material Design system.
- It provides ready-made React components (buttons, forms, tables, modals, dialogs, date pickers, etc.) that are highly customizable and theme-able.
- It's often used to speed up building responsive, accessible, and good-looking UIs for web applications.
- The library was originally called Material-UI, but was rebranded to MUI (shorter and broader, since the library now goes beyond just Material Design).

Introduction to MUI Ecosystem

- MUI Core – main React components (Button, TextField, Grid, etc.)

    - MUI X – advanced components (DataGrid, Date Pickers, Charts, etc.)

    - Joy UI – a separate design system with modern, flexible styles

    - MUI System – low-level styling & layout utilities (sx prop, Box, styled API)

- MUI Base – unstyled accessible primitives for custom styling

Material UI vs. MUI Base

- Material UI and MUI Base feature many of the same UI components, but MUI Base comes without any default styles or styling solutions.
- Material UI is comprehensive in that it comes packaged with default styles, and is optimized to work with Emotion (or styled-components).
- MUI Base, by contrast, could be considered the "skeletal" or "headless" counterpart to Material UI—in fact, future versions of Material UI will use MUI Base components and hooks for its foundational structure.

How to setup?

Please follow the instructions from docs

https://mui.com/material-ui/getting-started/installation/

Components Discovery

- Typography

- Buttons and Icon buttons + Using MUI Icons

- Cards

- Tabs

- Accordion

- Container

- Tables

- Pagination

- Form Fields

Default Theme values

For reference for theme default values

https://mui.com/material-ui/customization/default-theme/

Layout - Box

The Box component is a generic container for grouping other components. It's a fundamental building block when working with MUI System—you can think of it as a <div> with extra built-in features,

https://mui.com/material-ui/react-box/

Layout - Grid

Build a responsive layout with Grid system from MUI

https://mui.com/material-ui/react-grid/

Layout – (Stack)

- Stack is a container component for arranging elements vertically or horizontally (Flex)
- Stack is ideal for one-dimensional layouts, while Grid is preferable when you need both vertical and horizontal arrangement.

Thank you