

# Building Very Simple Web Applications

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**Create static web applications**

**Create interactive web applications**

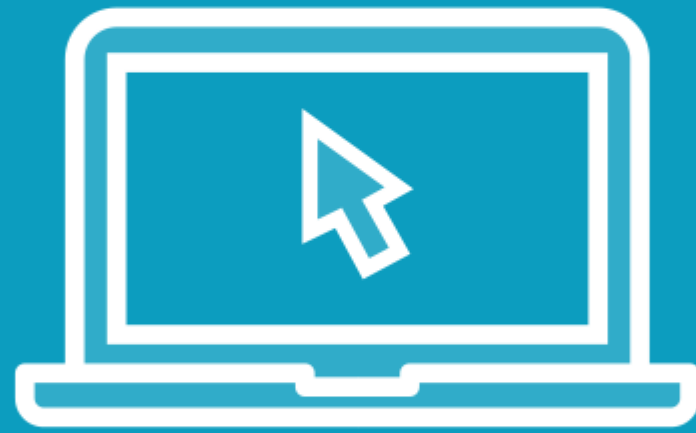
**Increase performance**

# Module Overview



- **How to show text on a page**
- **How to add more content to a page**
- **How to click a button to show a message**
- **Adding more interactivity**
- **Use caching to speed up the page**
- **What is the lifecycle of a Streamlit web page**

# Demo



- Show text
  - Use `st.write()`
  - Use magic commands
- Show data
  - Use `st.table()`
  - Use `st.dataframe()`

# How to Add More Content to a Page

## Simple charts

- Use `line_chart()`
- Use `area_chart()`
- Use `bar_chart()`

## Flexible charts

- **Matplotlib**
- **Altair**
- **Plotly**

## Multimedia

- **Images**
- **Audio**
- **Video**

# Adding Interactive Widgets

## Button

Call `st.button(...)`

Returns True if pressed

## Checkbox

Call `st.checkbox(...)`

Returns True if checked

## Radio

Call `st.radio(...)`

Returns the selected option

## Select box

Call `st.selectbox(...)`

Returns the selected option

# More Widgets

## Slider

Call `st.slider(...)`  
Returns value or tuple

## Multiselect

Call `st.multiselect(...)`  
Returns list of options

## Number input

Call `st.number_input(...)`  
Returns number

# Demo



- Show the extra widgets
- Organize content with a sidebar
  - Use `st.sidebar`
- Organize code with some refactoring



# Caching to Speed Up the Page

## Why caching?

- Downloading data takes a lot of time
- Some computations take a lot of time

## How to cache?

- Decorate function with `st.cache`

## Tradeoffs

- Memory consumption
- Data too old

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# What Is the Lifecycle of a Web Page?

**Each run executes the whole Python file**

**Most widgets interactions trigger new runs**

**Widgets state**

- **Preserved on the same page, except for buttons**
- **Not preserved across sidebar pages**
- **Upcoming feature to manage session state**

Up Next:

Building More Web Applications

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