

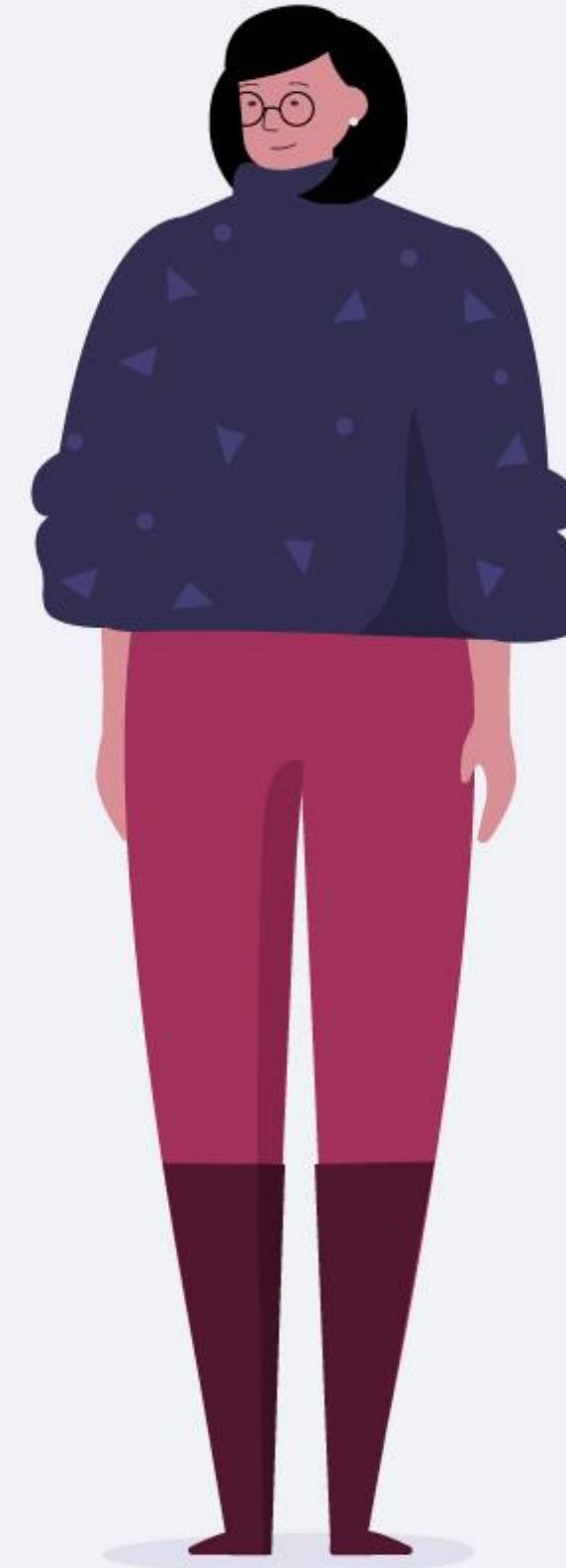
# Building Very Simple Web Applications

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**Create static web applications**

**Create interactive web applications**

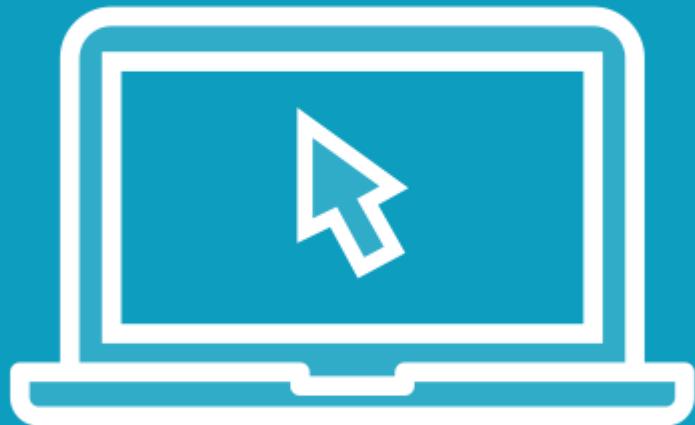
**Increase performance**

# 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(...)`

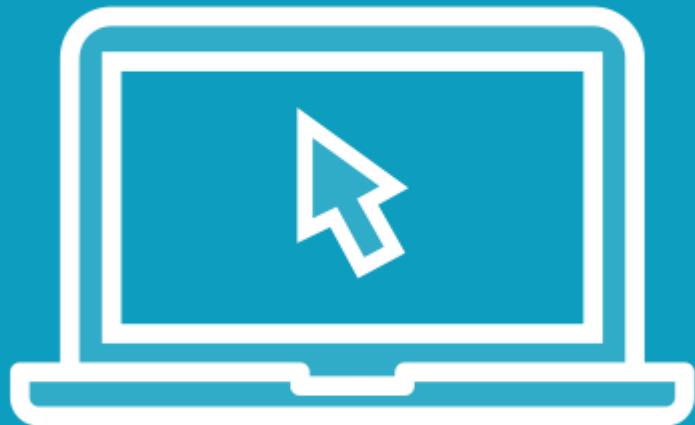
Returns list of options

## 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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