

React Fundamentals

React Introduction

 **Develop**Intelligence

A PLURALSIGHT COMPANY



Topics

- Modern Web Landscape
- What is React?
- React vs Other Libraries / Frameworks
- Understanding Components
 - Functional Components
 - Class Components
- Anatomy of a Component:
 - Render
 - Props
 - State
 - Methods



React Introduction

Modern Web Landscape

Looking Back

Yahoo - A Guide to WWW

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But now...

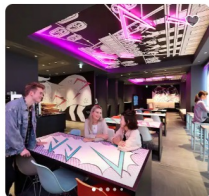


Map area Apr 7 - 15, 2023 2 guests

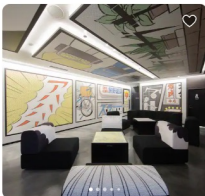
Become a Host

Over 1,000 homes

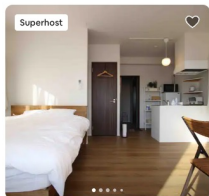
Filters



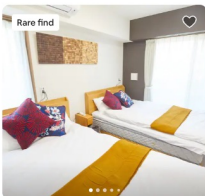
Hotel room in Taito City
★ 4.69 (77)
MANGA Design - 2 bed - Free simpl...
2 single beds
\$51 \$45 night - \$360 total



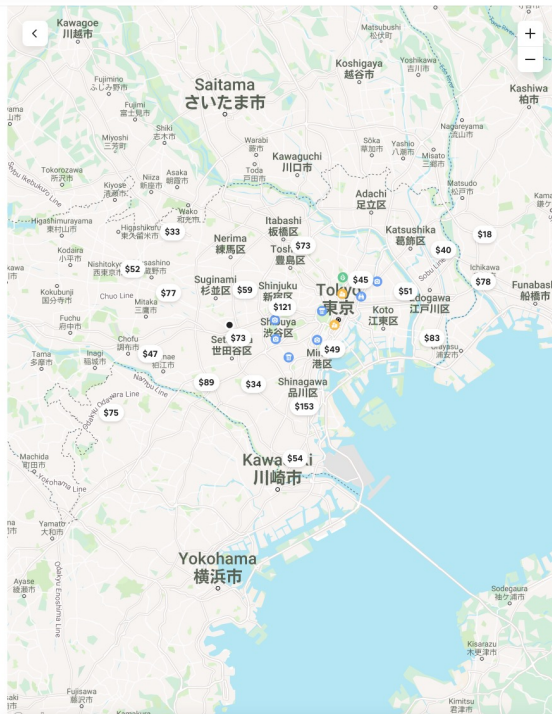
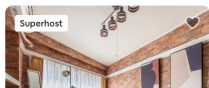
Hotel room in 港区
★ 4.71 (146)
MANGA Design - 1 bed - Free simpl...
1 double bed
\$55 \$49 night - \$389 total



Apartment in Ota City
★ 4.92 (38)
Kamatats STAY 701 / Theater Set / ...
2 beds
\$54 night - \$464 total



Apartment in Edogawa City
★ 4.9 (78)
TKSG-A) June 2021 OPEN★Good ...
2 double beds
\$92 \$83 night - \$700 total



Start your search

Become a Host

2Mins to Sta15Mins from Shinjuku!Free Wifi!#402

★ 4.75 - 20 reviews · Superhost · Shinjuku-ku,Tokyo-to,Japan

Share Save



Entire rental unit hosted by Syotaro

3 guests · 1 bedroom · 2 beds · 1 bath



Syotaro is a Superhost

Superhosts are experienced, highly rated hosts who are committed to providing great stays for guests.

Great check-in experience

100% of recent guests gave the check-in process a 5-star rating.

Free cancellation for 48 hours.

\$121 night

★ 4.75 - 20 reviews

CHECK-IN 4/7/2023	CHECKOUT 4/15/2023
GUESTS 2 guests	

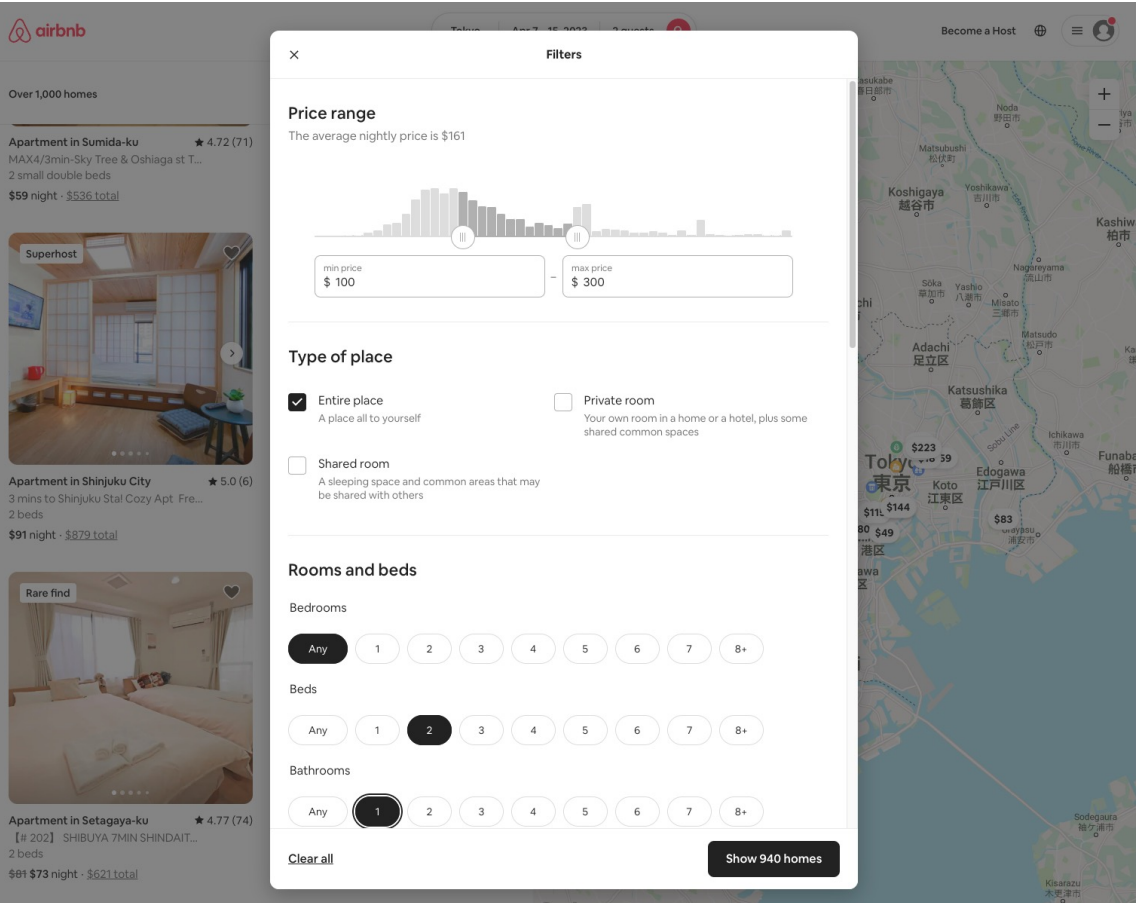
Reserve

You won't be charged yet

\$121 x 8 nights	\$968
Cleaning fee	\$34
Service fee	\$0



Every booking includes free protection from Host cancellations, listing inaccuracies, and

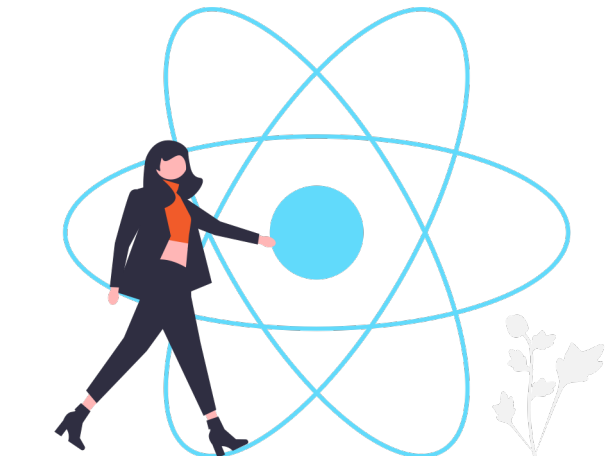


React Introduction

What is React.js?

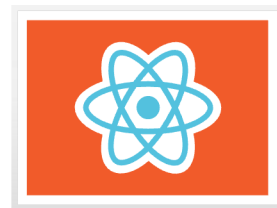
What is React.js?

- React is a JavaScript **library** for building interactive user interfaces
- Developed by Facebook, released as open-source software in 2013
- Has quickly become one of the most popular tools for building robust, interactive web applications

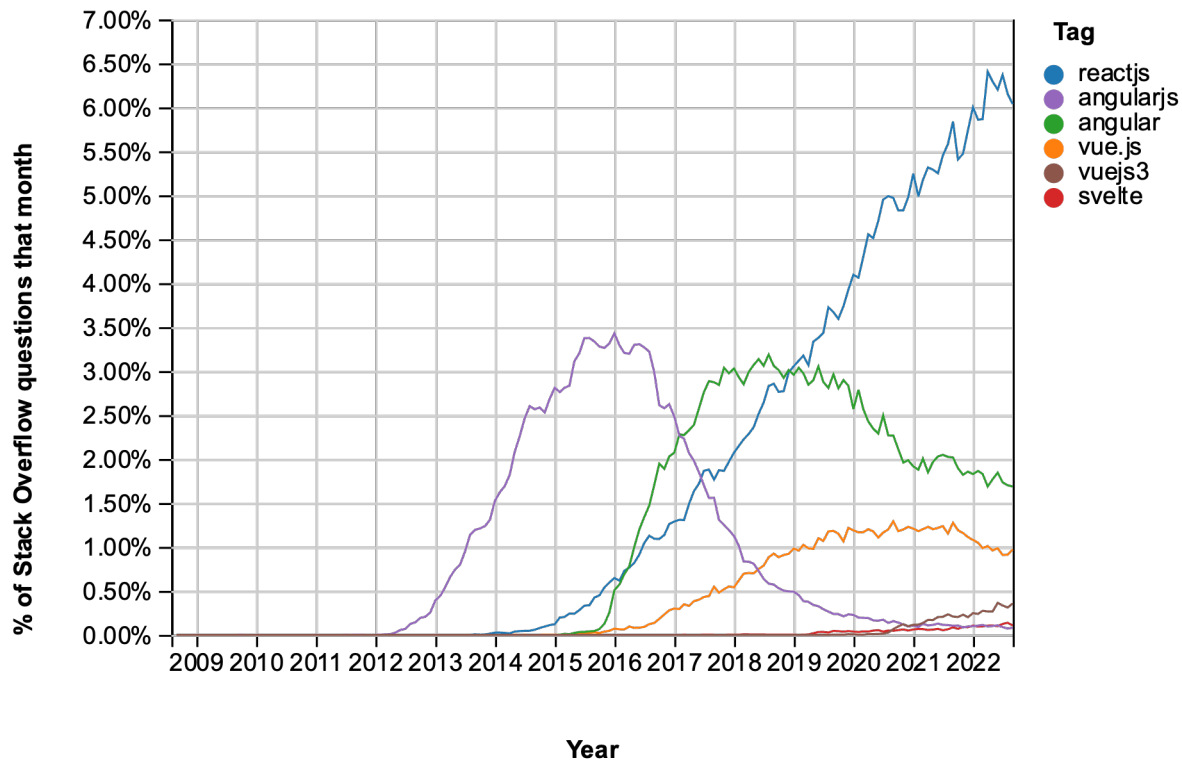


What about Angular and Vue?

- Angular and Vue are **Frameworks**
- Frameworks include more out-of-the-box tools for developing complete web applications (routing, testing)
- Comparatively, React is *less opinionated* about how you construct your apps



% of Stack Overflow Questions



Who is using React?

- Facebook
- Instagram
- Whatsapp
- Airbnb
- Discord
- Dropbox
- Atlassian
- Netflix
- Reddit
- Venmo



Why use React?

- Flexible (unopinionated library)
- Fast DOM updates
- Build reusable components
- Strong community support
- Easy to learn





React Introduction

Getting Started with React

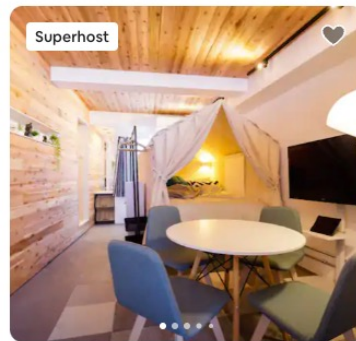
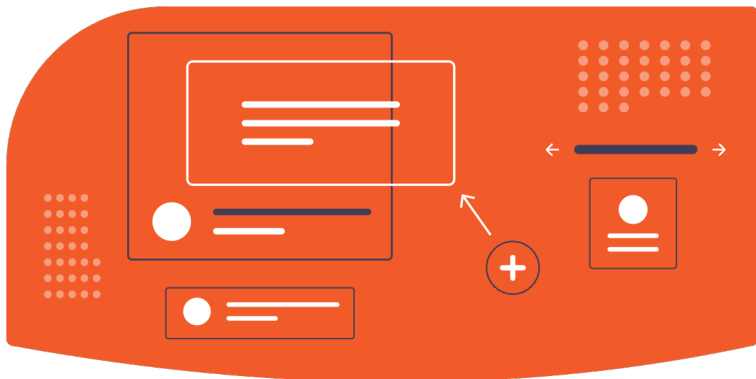
Getting Started with React

- Typically, developers will initialize new projects using a generator such as Create React App or Vite
- A minimum version of React can be added to an HTML page via CDN

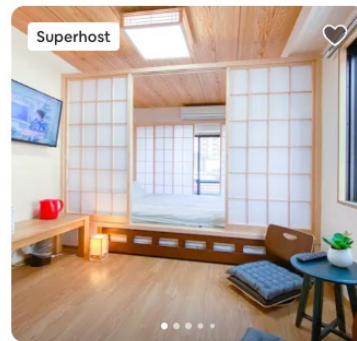


What's a Component?

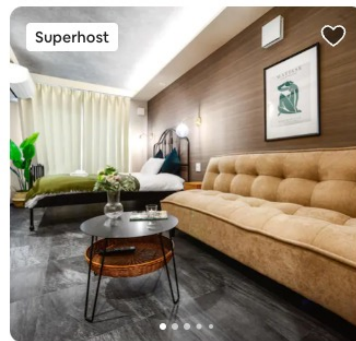
- Encapsulated piece of code
- Responsible for rendering a specific portion of the page
- Can contain other 'child' components rendered inside



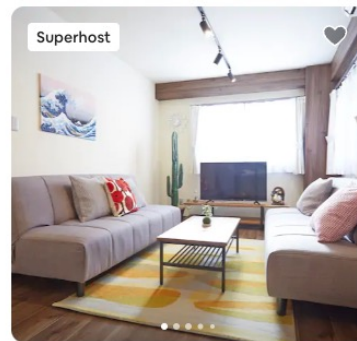
Condo in Shinjuku City ★ 4.89 (9)
5F Gramping in Shinjyuku! 4pax 2xD ...
2 double beds
\$90 night · [\\$787 total](#)



Apartment in Shinjuku City ★ 5.0 (6)
3 mins to Shinjuku Stal Cozy Apt Fre...
2 beds
\$91 night · [\\$879 total](#)



Hotel room in Minato City ★ 4.69 (16)
In Azabu- Perfect for couple& single...
2 beds
\$89 \$80 night · [\\$693 total](#)



Apartment in Shibuya-ku ★ 4.92 (177)
Near Shinjuku Shibuya / Hokusai ...
2 double beds
\$107 night · [\\$1,069 total](#)

JSX (JavaScript Syntax Extension)

- An HTML-like syntax for creating components
- Allows the use of embedded JS expressions
- Not included in base React library
- Not required, but recommended!





React Core Concepts

Understanding Components

Functional Components

- Bare minimum encapsulated React component
- Returns JSX / some other component(s)

```
function App() {  
  return (  
    <div>  
      Hello World!  
    </div>  
  )  
}
```

Component Props

- Components may receive props from a parent component
- Components re-render when props are updated
- Props are READ-ONLY – do not try to change props

```
function Child(props) {  
  return (  
    <div>  
      <h1>Hello, {props.name}</h1>  
    </div>  
  )  
}  
  
function Parent() {  
  return (  
    <div>  
      <Child name='Tim' />  
    </div>  
  )  
}
```

Component State

- Values necessary for your application to function
- Calling **useState** returns a **stateful value** and a **function** to update that value
 - State's initial value is passed to useState
- Should **only** be updated by their associated *set* function
- Components **re-render** when state is updated

```
import { useState } from 'react'

function App() {

  const [state, setState] = useState('world')

  return (
    <div>Hello, {state}</div>
  )
}
```

Component Methods

- Event handlers can directly call the state update function to modify state
- State changes cause the component to re-render, reflecting the new state in the UI

```
import { useState } from 'react'

function App() {
  const [count, setCount] = useState(0)

  const handleIncrement = () => {
    setCount(count + 1)
  }

  return (
    <div>
      Count: {count}
      <button onClick={handleIncrement}>+1</button>
    </div>
  )
}

export default App
```



Let's try it!

