

1. 부트스트랩이란

- 트위터에서 시작된 오픈 소스 프론트엔드 프레임워크.
- 시작은 디자이너 한명과 트위터의 개발자 한명.
- 현재 트위터에서 주도적으로 개발하지는 않음.
- 트위터에서 사용하는 각종 레이아웃, 버튼, 입력창 등의 디자인과 기능을 CSS와 JavaScript로 만들어 제공.
- 웹 디자이너나 개발자 사이에서 웹 디자인의 혁명이라고 불릴 정도로 폭발적인 반응을 얻었던 프레임워크.
- 미리 정의된 컴포넌트들을 프로젝트에 구현 가능.(UI 컴포넌트 제공)
- class 속성 제어만으로 컴포넌트 사용 가능.
- html5 doctype 선언 필요.
- viewport 지원.
- 오버라이딩 사용 가능

2. css와 부트스트랩 비교

```

.myBtn{
  padding: 5px;
  border: 2px solid green;
  background-color: blue;
  color: white;
}
.myHeader{
  color: pink;
  font-size: 30px;
  font-style: Italic;
  border: 3px solid purple;
  width: 50%;
  padding: 5px;
}

```

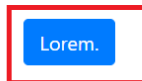
<css활용>

```

<button class="myBtn">button</button>
<h1 class="myHeader">Lorem ipsum dolor sit amet.</h1>
<hr>
<button class="btn btn-primary">Lorem.</button>

```

<bootstrap활용>



← bootstrap활용한 결과

↑ css활용한 결과

- css 를 작성하여 화면에 스타일 효과를 부여한 것보다 부트스트랩을 활용한 것이 코드는 간단하면서 결과물의 시각적 효과가 우수.

3. 부트스트랩 요소의 예

Buttons



Labels

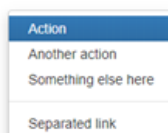


Tables

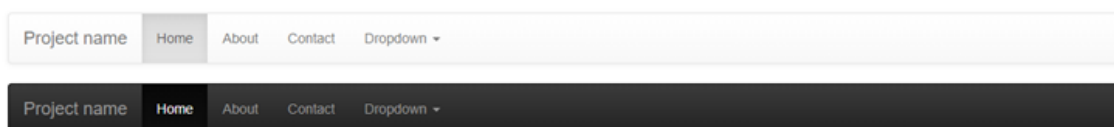
#	First Name	Last Name	Username
1	Mark	Otto	@mdo
2	Jacob	Thornton	@fat
3	Larry	the Bird	@twitter

#	First Name	Last Name	Username
1	Mark	Otto	@mdo
	Mark	Otto	@TwBootstrap
2	Jacob	Thornton	@fat
3	Larry the Bird		@twitter

Dropdown menus



Navbars



List groups

Cras justo odio
Dapibus ac facilisis in
Morbi leo risus
Porta ac consectetur ac
Vestibulum at eros

Panels

Panel title
Panel content

Panel title
Panel content

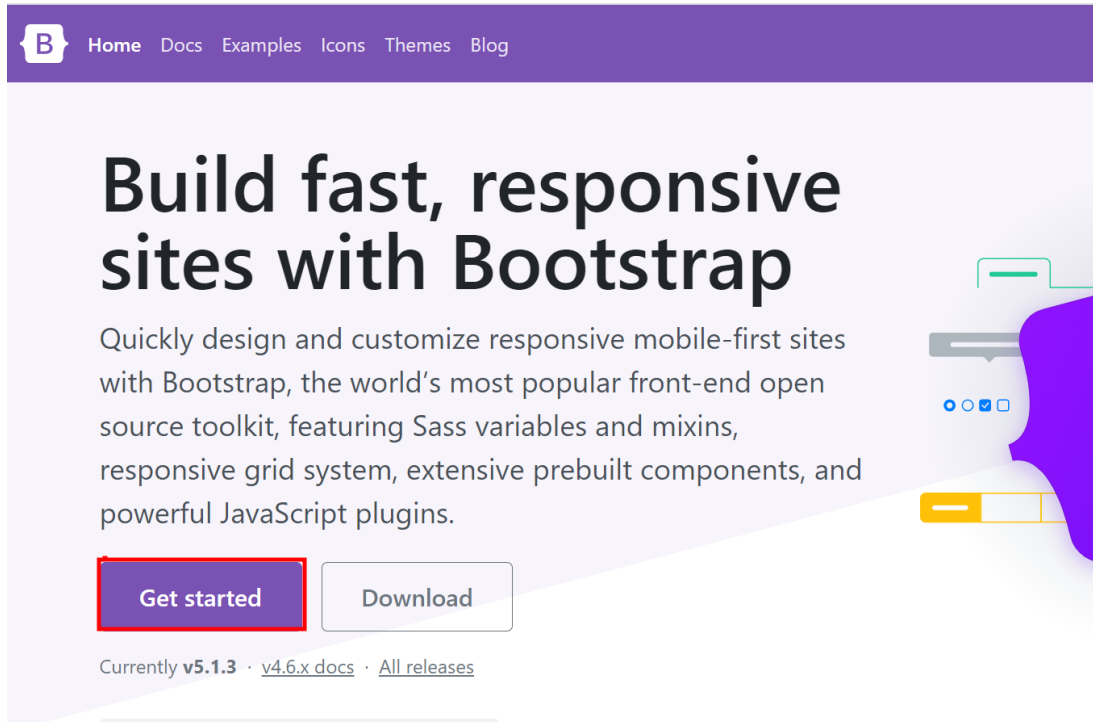
Carousel¹



이외의 부트스트랩 요소들은 홈페이지에서 확인한다.

4. 부트스트랩 환경 설정

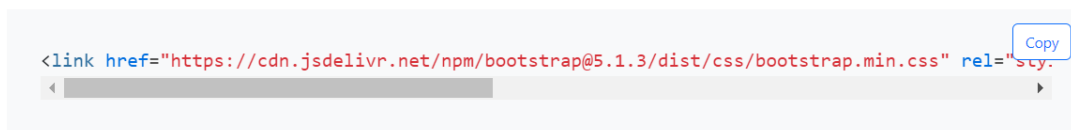
<https://getbootstrap.com/>



위 화면에서 get started 클릭한다.

CSS

Copy-paste the stylesheet `<link>` into your `<head>` before all other stylesheets to load our CSS.



위 화면에서 copy 버튼 클릭하여 현재 html 파일의 `<head>` 태그 내에 붙여넣기한다. 다른 css 파일을 연결하는 `<link>` 태그보다 먼저 위치해야 한다.

JS

Many of our components require the use of JavaScript to function. Specifically, they require our own JavaScript plugins and [Popper](#). Place **one of the following** `<script>s` near the end of your pages, right before the closing `</body>` tag, to enable them.

Bundle

Include every Bootstrap JavaScript plugin and dependency with one of our two bundles. Both `bootstrap.bundle.js` and `bootstrap.bundle.min.js` include [Popper](#) for our tooltips and popovers. For more information about what's included in Bootstrap, please see our [contents](#) section.

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js">
```

Separate

If you decide to go with the separate scripts solution, Popper must come first (if you're using tooltips or popovers), and then our JavaScript plugins.

```
<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.10.2/dist/umd/popper.min.js" integrity="sha384-7TU5009126130Zis364y3v3l26981c8b9753182187595097f50709064898">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.min.js" integrity="sha384-keQnOvdKRvcM7NjO8Vq3ZlrV6984tMNA644UAJdH6U57ARVK0+sYL18F2765">
```

위 화면에서 Bundle 부분의 copy 버튼을 클릭하여 현재 html 페이지의 `</body>` 태그 직전에 붙여넣기한다.

미리 만들어져 있는 css, js 파일들을 연결하는 작업 완료.

HTML5 선언

HTML5 doctype

Bootstrap requires the use of the HTML5 doctype. Without it, you'll see some funky incomplete styling, but including it shouldn't cause any considerable hiccups.

```
<!doctype html>
<html lang="en">
  ...
</html>
```

VIEWPORT 설정

Responsive meta tag

Bootstrap is developed *mobile first*, a strategy in which we optimize code for mobile devices first and then scale up components as necessary using CSS media queries. To ensure proper rendering and touch zooming for all devices, **add the responsive viewport meta tag** to your `<head>`.

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

[Copy](#)

5. 부트스트랩 코드

아래 코드들을 참조하여 실행해 보고 원하는 기능이나 스타일을 부트스트랩 페이지에서 찾아서 사용한다.

5-1. 여백 설정 - .container 로 시작하는 클래스명 사용

- 효과없이 div만 작성하면 여백 자동 설정
- class: container 좌우 여백 생성
- class: container-fluid 좌우 여백을 만들지 않고 꽉 채워 출력

이외에도 bootstrap사이트에서 다양한 container기능을 찾아 볼 수 있음

5-2. 버튼 1개 생성 - .btn 으로 시작하는 클래스명 사용

> Getting started

> Customize

> Layout

> Content

> Forms

> Components

Accordian

Alerts

Badge

Breadcrumb

Buttons

Button group

Card

Carousel

Close button

Collapse

Dropdowns

List group

Buttons

View on GitHub

Use Bootstrap's custom button styles for actions in forms, dialogs, and more with support for multiple sizes, states, and more.

Audience Network

Get Started

Diversify your revenue beyond in-app purchases with ad monetization ads via Carbon

Examples

Bootstrap includes several predefined button styles, each serving its own semantic purpose, with a few extras thrown in for more control.

Primary

Secondary

Success

Danger

Warning

Info

Light

Dark

Link

5-3. 버튼 그룹 - .class=btn-group 으로 시작하는 클래스명 사용

> Getting started

> Customize

> Layout

> Content

> Forms

> Components

Accordion

Alerts

Badge

Breadcrumb

Buttons

Button group

Card

Carousel

Close button


Collapse

Dropdowns

Button group

View on GitHub

Group a series of buttons together on a single line or stack them in a vertical column.



Limited time offer: Get 10 free Adobe Stock images.
ads via Carbon

Basic example

Wrap a series of buttons with `.btn` in `.btn-group`.

Left Middle Right

5-4. 드롭다운버튼 - .dropdown 으로 시작하는 클래스명 사용

> Customize

> Layout

> Content

> Forms

> Components

Accordion

Alerts

Badge

Breadcrumb

Buttons

Button group

Card

Carousel

Close button

Collapse

Dropdowns

List group

Single button

Any single `.btn` can be turned into a dropdown toggle with some markup changes. Here's how you can put them to work with either `<button>` elements:

Dropdown button ▾

Copy

```
<div class="dropdown">
  <button class="btn btn-secondary dropdown-toggle" type="button" id="dropdownMenuButton1" data-bs
    Dropdown button
  </button>
  <ul class="dropdown-menu" aria-labelledby="dropdownMenuButton1">
    <li><a class="dropdown-item" href="#">Action</a></li>
    <li><a class="dropdown-item" href="#">Another action</a></li>
    <li><a class="dropdown-item" href="#">Something else here</a></li>
  </ul>
</div>
```


5-6. 모달 - .modal 로 시작하는 클래스명 사용

- Card
- Carousel
- Close button
- Collapse
- Dropdowns
- List group
- Modal**
- Navs & tabs
- Navbar
- Offcanvas
- Pagination
- Placeholders
- Popovers
- Progress
- Scrollspy
- Spinners
- Toasts
- Tooltips

Examples

Modal components

Below is a *static* modal example (meaning its `position` and `display` have been overridden). Included are the modal header, modal body (required for `padding`), and modal footer (optional). We ask that you include modal headers with dismiss actions whenever possible, or provide another explicit dismiss action.

Modal title

Modal body text goes here.


Close Save changes

- > Getting started
- > Customize
- > Layout
- > Content
- ▼ **Forms**
 - Overview**
 - Form control
 - Select
 - Checks & radios
 - Range
 - Input group
 - Floating labels
 - Layout
 - Validation
- > Components
- > Helpers
- > Utilities
- > Extend
- > About

Forms

[View on GitHub](#)

Examples and usage guidelines for form control styles, layout options, and custom components for creating a wide variety of forms.



Limited time offer: Get 10 free Adobe Stock images. ads via Carbon

Form control

Style textual inputs and textareas with support for multiple states.

Checks & radios

Use our custom radio buttons and checkboxes in forms for selecting input options.

Input group

Attach labels and buttons to your inputs for increased semantic value.

Layout

Create inline, horizontal, or complex grid-based layouts with your forms.

Select

Improve browser default select elements with a custom initial appearance.

Range

Replace browser default range inputs with our custom version.

Floating labels

Create beautifully simple form labels that float over your input fields.

Validation

Validate your forms with custom or native validation behaviors and styles.

5-7. 네비게이션바 - .navbar 로 시작하는 클래스명 사용

- 네이게이션바 양식의 메뉴 생성

Components

Navbar

- Accordion
- Alerts
- Badge
- Breadcrumb
- Buttons
- Button group
- Card
- Carousel
- Close button
- Collapse
- Dropdowns
- List group
- Modal
- Navs & tabs
- Navbar**
- Offcanvas
- Pagination
- Placeholders
- Popovers
- Progress
- Scrollspy
- Spinners
-

```
  
</div>  
</nav>
```

Nav

Navbar navigation links build on our `.nav` options with their own modifier class and require the use of [toggler classes](#) for proper responsive styling. **Navigation in navbars will also grow to occupy as much horizontal space as possible** to keep your navbar contents securely aligned.

Add the `.active` class on `.nav-link` to indicate the current page.

Please note that you should also add the `aria-current` attribute on the active `.nav-link`.

Navbar Home Features Pricing Disabled

```
<nav class="navbar navbar-expand-lg navbar-light bg-light">  
<div class="container-fluid">  
<a class="navbar-brand" href="#">Navbar</a>  
<button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbar<br><span class="navbar-toggler-icon"></span>  
</button>  
<div class="collapse navbar-collapse" id="navbarNav">
```

```
</div>  
</nav>
```

Forms

Place various form controls and components within a navbar:

Search

Search

```
<nav class="navbar navbar-light bg-light">  
<div class="container-fluid">  
<form class="d-flex">  
<input class="form-control me-2" type="search" placeholder="Search" aria-label="Search">  
<button class="btn btn-outline-success" type="submit">Search</button>  
</form>  
</div>  
</nav>
```

Immediate child elements of `.navbar` use flex layout and will default to `justify-content: space-between`. Use additional [flex utilities](#) as needed to adjust this behavior.

Navbar

Search

Search

5-8. carousel - .carousel 로 시작하는 클래스명 사용

- 슬라이드바 양식의 메뉴 생성
- 일정 간격마다 이미지 슬라이드
- 슬라이드 간격 조정 가능

The screenshot shows the Bootstrap documentation for the 'Slides only' carousel. On the left, a 'Components' sidebar lists various UI elements, with 'Carousel' highlighted in a red box. A red arrow points from this box to the 'Slides only' section. The main content area is titled 'Slides only' and includes a note: 'Here's a carousel with slides only. Note the presence of the `.d-block` and `.w-100` on carousel images to prevent browser default image alignment.' Below the text is a visual representation of a carousel with two slides; the first slide is dark gray with the text 'First slide'. At the bottom, a code block shows the HTML structure for a slide, with a 'Copy' button to its right.

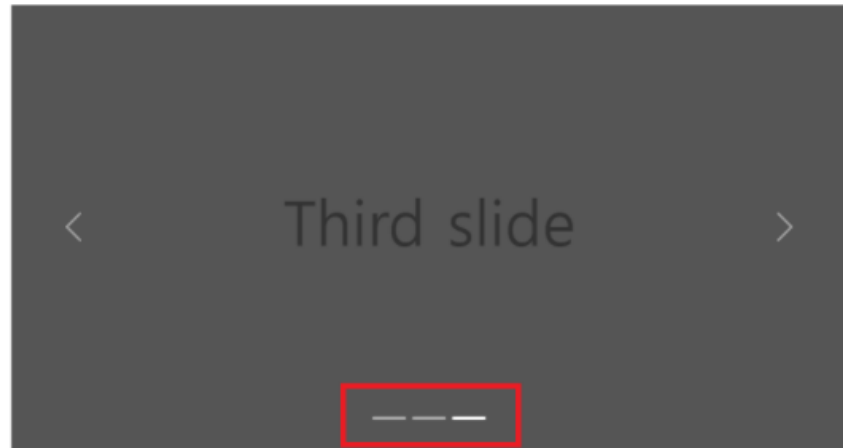
```
<div id="carouselExampleSlidesOnly" class="carousel slide" data-bs-ride="carousel">
  <div class="carousel-inner">
    <div class="carousel-item active">
      
    </div>
  </div>
```

The screenshot shows the Bootstrap documentation for the 'With controls' carousel. On the left, the 'Components' sidebar is visible, with 'Carousel' highlighted in a red box. A red arrow points from this box to the 'With controls' section. The main content area is titled 'With controls' and includes a note: 'Adding in the previous and next controls. We recommend using `<button>` elements, but you can also use `<a>` elements with `role="button"`.' Below the text is a visual representation of a carousel with a single slide, 'Third slide', which is dark gray. On the left and right sides of the slide, there are red boxes containing the left and right navigation arrows (< and >). At the bottom, a code block shows the HTML structure for a slide with navigation controls, with a 'Copy' button to its right.

```
<div id="carouselExampleWithControls" class="carousel slide" data-bs-ride="carousel">
  <div class="carousel-inner">
    <div class="carousel-item active">
      
    </div>
  </div>
  <div class="carousel-control-prev">
    <button type="button" data-bs="previous" data-bs-slide="previous"></button>
  </div>
  <div class="carousel-control-next">
    <button type="button" data-bs="next" data-bs-slide="next">></button>
  </div>
</div>
```

Accordion
Alerts
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Pagination
Placeholders
Popovers
Progress
Scrollspy
Spinners

You can also add the indicators to the carousel, alongside the controls, too.



```
<div id="carouselExampleIndicators" class="carousel slide" data-bs-ride="carousel">  
  <div class="carousel-indicators">  
    <button type="button" data-bs-target="#carouselExampleIndicators" data-bs-slide-to="0" class=",">  
    <button type="button" data-bs-target="#carouselExampleIndicators" data-bs-slide-to="1" aria-label="1">  
    <button type="button" data-bs-target="#carouselExampleIndicators" data-bs-slide-to="2" aria-label="2">  
  </div>
```

Copy