

What is Responsive Design?

What is Responsive Web Design?

- It is designing your sites with multiple screen sizes/resolutions in mind.
- Sites should “work” under any platform, any browser size, any orientation. The user should have the power.

Concepts to consider

- Media queries – detecting the viewport size
- Flexible grid-based layout for relative sizing
- Flexible images

Getting Started With Bootstrap

Getting Started

- How do you actually use Bootstrap?
- You need access to the CSS code and JS code.
- Options:
 - Download copy
 - Use absolute reference

Using a CDN

- A CDN is a content delivery network
- Provides a way to connect to the Bootstrap code using an absolute reference
 - See given template for details....

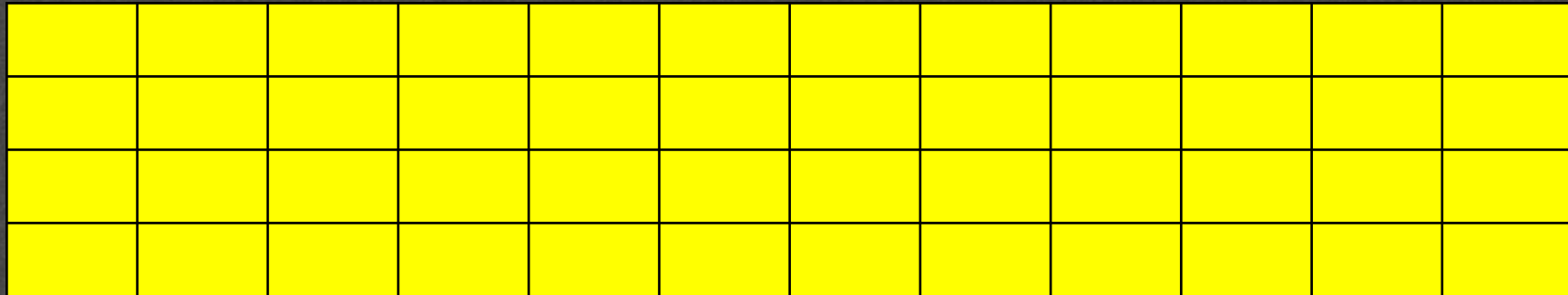
Don't forget...

- To use element inspector.
- To include the JavaScript at the bottom.
- That you can customize bootstrap defaults.
- That you can overwrite bootstrap defaults.

Bootstrap Grid System

It's not a table....

- The Bootstrap layout is based on a 12 column grid



~~12 columns = 100%~~

Grid classes

- Every grid consists of:
 - A container
 - A row
 - One or more column classes

```
<div class= "container">
```

```
  <div class= "row">
```

```
    <div class= "col-xx-yy">
```


Setting width with col-xx-yy

- The class col-xx-yy always starts with “col”
- The “xx” component is the viewport size:
 - xs (in BS3 only), sm, md, lg, xl (in BS4-5), xxl (in BS5 only)
- The “yy” component is the number of columns 0..12

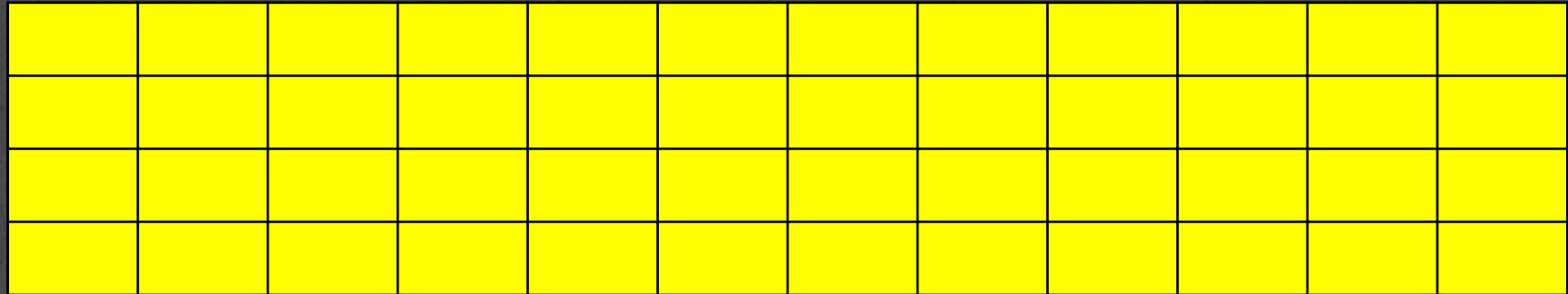
col-xx-yy

- col-
- col-sm-8
- col-md-4
- col-lg-3
- These are often combined! Think photos....

```
<img src = "pic.jpg" class="col-12 col-sm-6  
col-md-3 col-lg-2">
```


Using Bootstrap

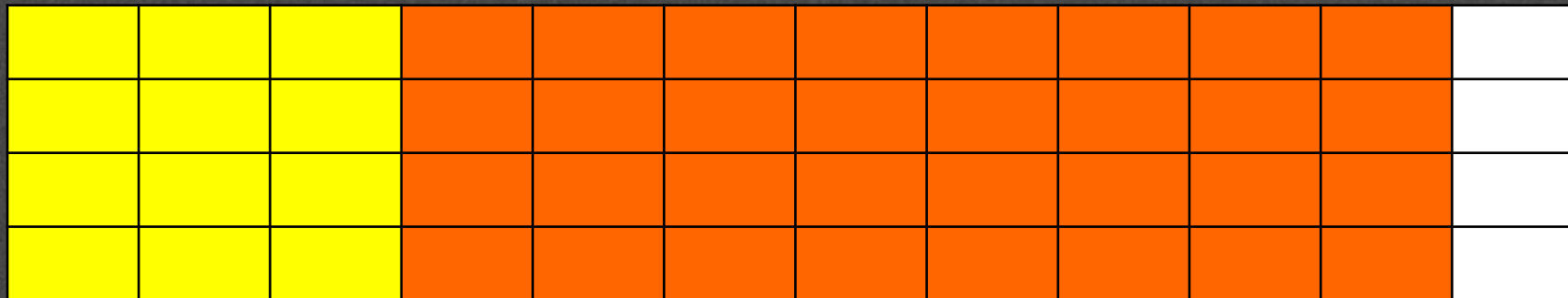
- Using the classes....



col-XX-02

Combining elements

- What if you want two elements next to each other, but only on larger screen?



```
<div class="col-12 col-md-3">Yellow Part</div>
```

```
<div class="col-12 col-md-8">Orange Part</div>
```


It's mobile-first...

- Because Bootstrap is mobile first, there is no need to specify the twelve columns if the element is block.

```
<div class="col-xs-12 col-md-3">Yellow Part</div>
```

```
<div class="col-md-3">Yellow Part</div>
```

Positioning classes

- On viewports md and up, there is an option for push and pull class.
 - `col-XX-push-YY` → move YY columns to the right
 - `col-XX-pull-YY` → move YY columns to the left

Responsive utility classes

- **hidden-XX** content will only be hidden on the XX screen size
- **visible-XX** content will only be visible on the XX screen size
- **sr-only** content is hidden on all devices except screen readers

Conclusion

- Bootstrap is mobile first, larger screens inherit values from smaller screens.
- Review <https://getbootstrap.com/docs/5.3/getting-started/introduction/>
- Do the math!! If you want two elements to be next to each other on a larger screen, make sure their width adds up to no more than 12.

Bootstrap Breakpoints

Breakpoints

- What are they?
- Sizes that define a change in your site layout or content.
- Used to provide best possible experience for users based on device information.

Determining the Breakpoints

- Breakpoints should correspond to:
 - devices and/or
 - content

Mobile first

- What does this mean?
 - You shouldn't see breakpoints for small screens. The default styling already covers that.
 - You should have min-width instead of max-width

Bootstrap's Default Breakpoints

- Bootstrap hardcodes the breakpoints for different viewports.
- The intention is to use the mobile-first paradigm.
 - *Plan for the smallest screen and make adjustments size gets larger.*

Reminder: Setting width with col-xx-yy

- The class col-xx-yy always starts with “col”
- The “xx” component is the viewport size:
 - xs (in BS3 only), sm, md, lg, xl (in BS4-5), xxl (in BS5 only)
- The “yy” component is the number of columns 0..12

Conclusion

- Knowing the *exact* values of the breakpoints isn't important.
- More important to know that Bootstrap refers to xs-, sm-, md-, and lg- screen sizes.
- You can always modify to your own needs.

Bootstrap 5	Bootstrap 4	Bootstrap 3
No support for I.E	No support for I.E 8 and 9 only	Support Internet Explorer 8 and 9
Separate both Portrait and Landscape mode on Smartphones.	Separate both Portrait and Landscape mode on Smartphones.	Both Portrait and Landscape mode looks identical.
Container size 1320px	Container Size 1140px	Container Size 1170px
Six Class prefixes, i.e col-xxl, col-xl, col-lg-, col-md- , col-sm-, col- .	Five Class prefixes, i.e col-xl, col-lg- , col-md- , col-sm-, col- .	Four Class prefixes, i.e col-lg- , col-md- , col-sm-, col-xs .
Use CSS Flexbox , CSS functions and variables	Use CSS Flexbox .	Use CSS Float and Clear
Only responsive layout .	Only responsive layout .	Non responsive layout option .
Use better Cards	Use Cards instead of wells and panels.	No Cards
Inverse Table Option.	Inverse Table Option.	No option for inverse Table

Source -- <https://tutorial.techaltum.com/bootstrap.html>

Acknowledgements/Contributions

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