### Responsive Web Design



The Drive

The Walk

The suck to the Pupit from will lake you approximately too hours, give or

#### The Walk

The walk to the Pulpit Rock will take you approximately two hours, give or take an hour depending on the weather conditions and your physical shape.

# W. Cha. M.

#### What?

The Pulpit Rock is a part of a mountain that looks like a pulpit.

#### Where?

The Pulpit Rock is in Norway

#### Price?

The walk is free!

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The Walk

The Wall

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The Pulpit Rock

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ion of fluid web design made by www.w3schools.com. Resize the browser window to see the content response to the resizing.

Responsive web design makes your web page look good on all devices.

Responsive web design uses only HTML and CSS.

Responsive web design is not a program or a JavaScript file.

### A flexible grid

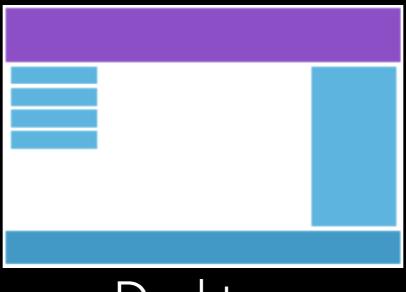
Rather than remaining at a static width, responsive sites use methods that allow them to squeeze and flow into the available browser space.

### Flexible images

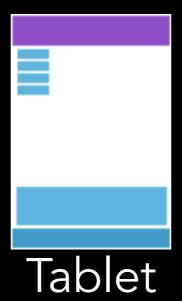
Images and other embedded media need to be able to scale to fit their containing elements.

### **CSS** media queries

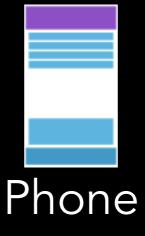
Media queries give us a way to deliver sets of rules only to devices that meet certain criteria, such as width and orientation.



Desktop



Content adapts to fit any device



To fit standard websites onto small screens, mobile browsers render the page on a **canvas** called the **viewport** and then shrink that viewport down to fit the width of the screen (device width).

For example, on iPhones, mobile Safari sets the viewport width to 980 points, so a web page is rendered as though it were on a desktop browser window set to 980 pixels wide. That rendering gets shrunk down to the width of the screen (ranging from 320 to 414 points, depending on the iPhone model), cramming a lot of information into a tiny space.

### Metadata: `viewport`

The user's visible area of a web page

HTML5 introduced a method to let web designers take control over the viewport, through the <meta> tag.

<!

- Tells the browser to match the device's width for the viewport
  - Sets an initial zoom value -->

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

### <meta name="viewport" content="width=device-width, initial-scale=1.0">





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without with

Let's breakdown the `content` value of this responsive <meta> tag:

Values are comma separated, letting you specify a list of values for `content`

The `width` value is set to `device-width`. This will cause the browser to render the page at the same width of the device's screen size.

`initial-scale` set to `1` indicates the "zoom" value if your web page when it is first loaded.
`1` means "no zoom."

There are other values you can specify for the `content` list -

[Responsive Meta Tag](https://css-tricks.com/snippets/html/responsive-meta-tag/)

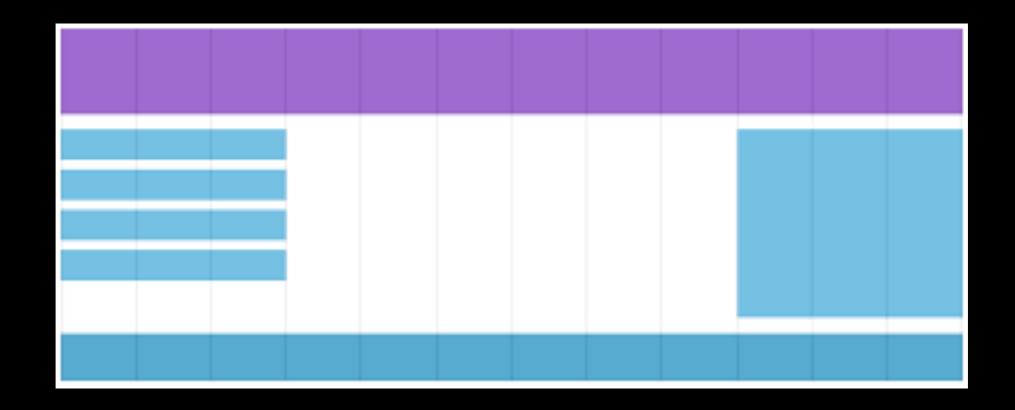
[Viewport Meta Tag](https://developer.mozilla.org/en-US/docs/Mozilla/Mobile/Viewport\_meta\_tag)

#### ## Mobile First

More and more users are visiting websites from mobile devices today. Because of this trend, there is a push to create implements what's known as a "mobile first" web design when creating sites. "Mobile first" is the practice of designing and developing your websites with a mobile layout first, before ever imagining it as a desktop site. The main reasoning behind this is that it is much easier to design and develop a website with a mobile mentality right from the start than it is to take an exisiting, non-mobile website and try to bring it into the 21st century.

[Mobile First](https://responsivedesign.is/strategy/page-layout/mobile-first/)

## 1 option: Use a grid



A responsive grid-view often has 12 columns, and has a total width of 100%, and will shrink and expand as you resize the browser window.

### Media Queries

Uses the @media rule to include a block of CSS properties only if a certain condition is true

Value	Description
any-hover	Does any available input mechanism allow the user to hover over elements? (added in Media Queries Level 4)
any-pointer	Is any available input mechanism a pointing device, and if so, how accurate is it? (added in Media Queries Level 4)
aspect-ratio	The ratio between the width and the height of the viewport
color	The number of bits per color component for the output device
color-gamut	The approximate range of colors that are supported by the user agent and output device (added in Media Queries Level 4)
color-index	The number of colors the device can display
grid	Whether the device is a grid or bitmap
height	The viewport height
hover	Does the primary input mechanism allow the user to hover over elements? (added in Media Queries Level 4)
inverted-colors	Is the browser or underlying OS inverting colors? (added in Media Queries Level 4)
light-level	Current ambient light level (added in Media Queries Level 4)
max-aspect-ratio	The maximum ratio between the width and the height of the display area
max-color	The maximum number of bits per color component for the output device
max-color-index	The maximum number of colors the device can display
max-height	The maximum height of the display area, such as a browser window
max-monochrome	The maximum number of bits per "color" on a monochrome (greyscale) device
max-resolution	The maximum resolution of the device, using dpi or dpcm

## Example

```
@media only screen and (max-width: 500px) {
   body {
   background-color: light blue;
  }
}
```

If max-width is 500 pixels, make background color blue

# Breakpoint

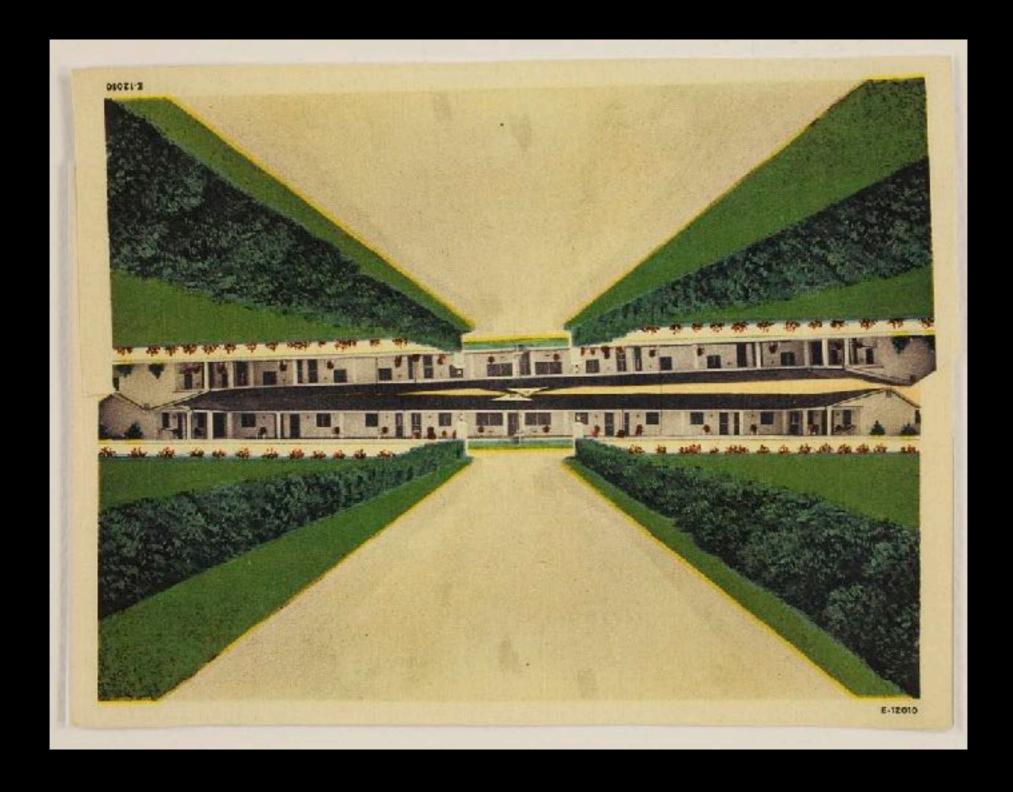
```
/* For mobile phones: */
[class*="col-"] {
  width: 100%;
@media only screen and (min-width: 768px) {
  /* For desktop: */
  .col-1 {width: 8.33%;}
  .col-2 {width: 16.66%;}
  .col-3 {width: 25%;}
  .col-4 {width: 33.33%;}
  .col-5 {width: 41.66%;}
  .col-6 {width: 50%;}
  .col-7 {width: 58.33%;}
  .col-8 {width: 66.66%;}
  .col-9 {width: 75%;}
  .col-10 {width: 83.33%;}
  .col-11 {width: 91.66%;}
  .col-12 {width: 100%;
```

add a **breakpoint** where certain parts of the design will behave differently on each side of the breakpoint

many exam

many examples: <a href="https://www.w3schools.com/Css/css\_rwd\_mediaqueries.asp">https://www.w3schools.com/Css/css\_rwd\_mediaqueries.asp</a>

If the max-width property is set to 100%, the image will scale down if it has to, but never scale up to be larger than its original size



<img src="ashbery.jpg" style="max-width:100%;height:auto;">





### Mobile-first! (Images)

```
/* For width smaller than 400px: */
body {
  background-image: url('void_newspaper.jpg');
/* For width 400px and larger: */
@media only screen and (min-width: 400px) {
  body {
     background-image: url('void.jpg');
```

# Responsive Text

The text size can be set with a "vw" unit, which means the "viewport width".

That way the text size will follow the size of the browser window.

<h1 style="font-size:10vw">Hello World</h1>

### Responsive Frameworks

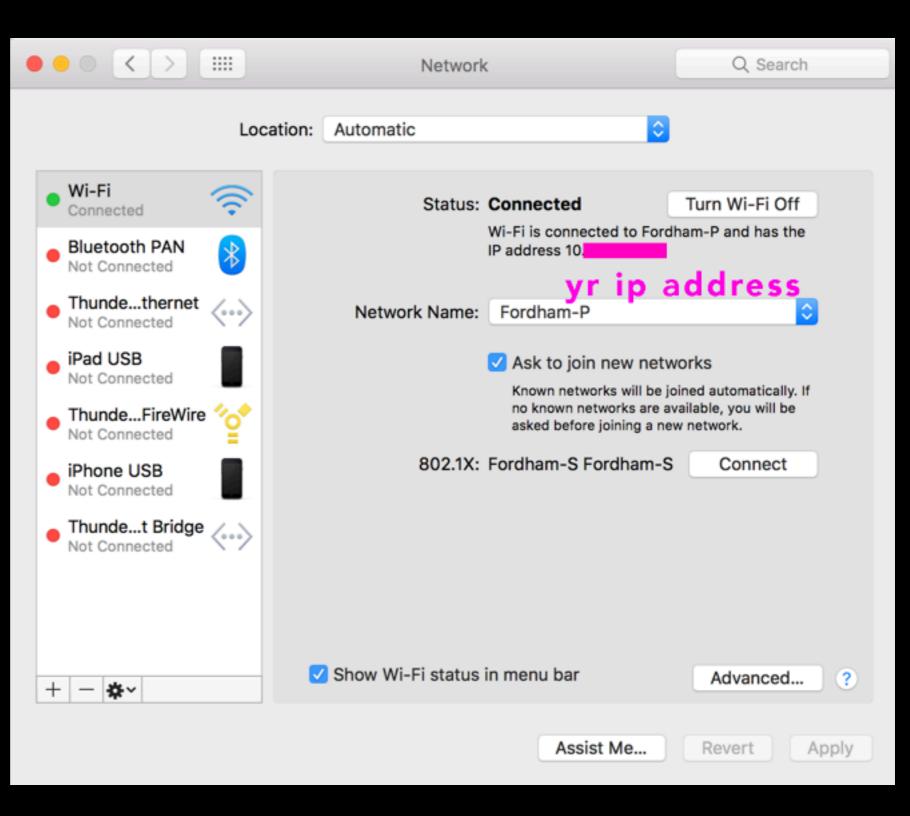
Responsive frameworks are templates of responsive stylesheets

Examples: W3.CSS, Bootstrap (JavaScript)

Examples: <a href="https://www.w3schools.com/html/html\_responsive.asp">https://www.w3schools.com/html/html\_responsive.asp</a>

## designing for your device - how to see yr local <u>HTTP server on another machine.</u>

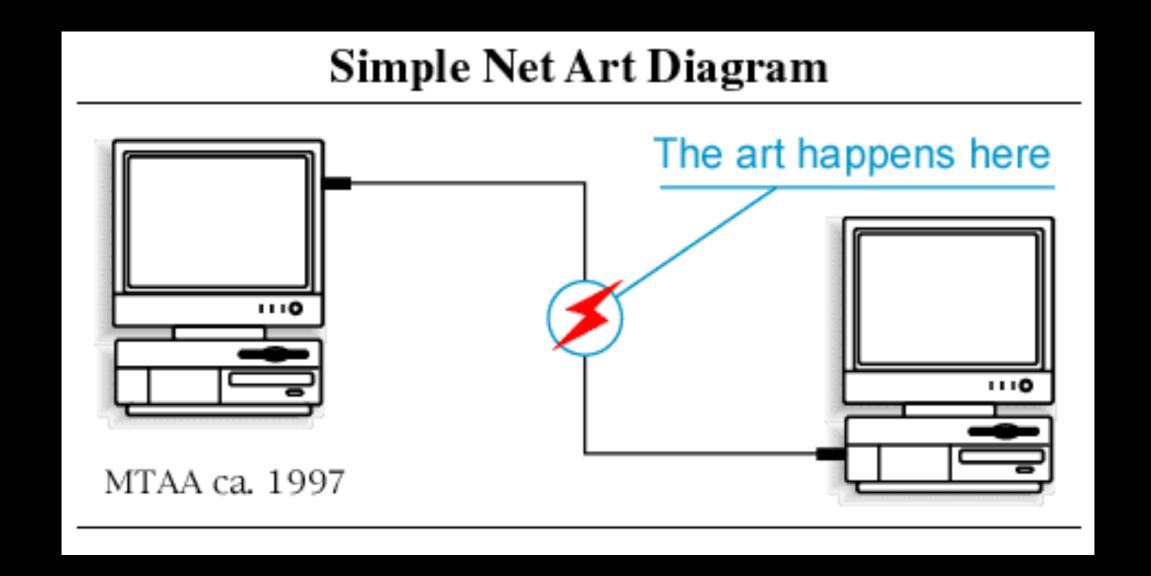
system preference > network



designing for your device - how to see yr local HTTP server on another machine.

using a mobile browser type the following as yr url

yr.ip.address:8000



"Art made online exists solely if realized by both author and viewer, since an experience of the work is possible only once, or if, it is accessed. Until then, its location remains undefined and unmapped, without any physical manifestation." (Tribe/Jana, 2006)