## Frameworks

- er det altid klogt at opfinde den dybe tallerken selv?





### Hvad er et framework

- Samling af færdige standardiserede kodeelementer der kan anvendes til opbygge layout og funktionalitet på en struktureret og effektiv måde
- De fleste websites har en del fællesstræk...
  - Med et framework skal du ikke starte forfra hver gang
- Der findes front-end og back-end frameworks
- Der er mange forskellige (Bootstrap, Foundation, Boilerplate...)

### Indholdet

- HTML typisk templates og snippets
- CSS typisk en større fil der understøtter "alt"
- Javascript typisk en større samling funktioner som anvendes af snippets



# Alting har en pris

- Siderne er typisk større end håndkodede sider
  - Der hentes et større CSS end nødvendigt
  - Der hentes et større javascript-bibliotek end nødvendigt
- Det tager tid at sætte sig ind i
  - Og dermed også at skifte fra



# Fordele og ulemper

- Fordele
  - Du kan hurtigere lave noget der er pænt
  - Du får let mange funktioner
  - Det er lettere at gøre brugervenligt
- Ulemper
  - Det er vanskeligere at lave unikt design
  - Du skal sætte dig ind i kode og funktionalitet
  - Man lærer framework og ikke sprog



# Lokal eller hostet

## Lokal installation

- Download filerne og integrer dem i dit site
- Du har styr på adgangen (hvis dit site kører, så kører det hele)
- Du har styr på versioner mv
- Kan testes lokalt uden netværksforbindelse
- Du kan have tilpassede versioner

## Hostet

- Du linker filer der ligger på en server på nettet
- Eksempelvis hos CDN (Content Distribution Network)
- Afhængig af andres driftsstabilitet og hastighed
- Kan være cached hos brugeren, men ingen garanti
- Kan være en fordel på små servere (IoT)
- Ingen garanti for at alle brugere kan "se" serveren
- Du kan ikke være 100% sikker på at koden ikke er hacket
- Du afgiver kontrol over en (væsentlig) del af din side til 3. part

# Komprimeret eller ei

```
jOnery JavaScript Library v1.11.2
   http://jquery.com/
 * Includes Sizzle.is
 http://sizzlejs.com/

    Copyright 2005, 2014 (Query Foundation, Inc. and other contributors

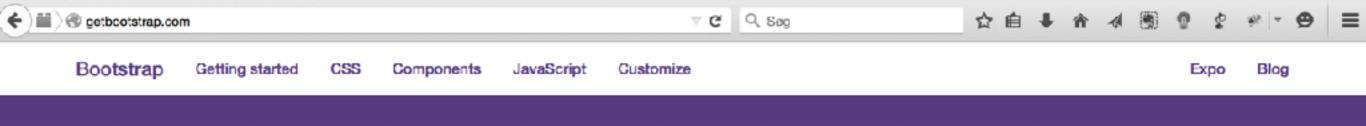
 * Released under the MIT license
 http://jquery.org/license
 * Date: 2014-12-17T15:272
(function( global, factory ) {
         if ( typeof module --- "object" 5% typeof module-exports --- "object" ) {
                  // For CommonJS and CommonJS-like environments where a proper window is present,
                  // execute the factory and get jQuery
                  // For environments that do not inherently posses a window with a document
                  // (such as Node.js), expose a jQuery-making factory as module.exports
                  // This accentuates the need for the creation of a real window
                 // e.g. var jQuery = require('jquery')(window);
// See ticket #14549 for more info
                 module.exports = global.document ?
                           factory( global, true ) :
                           function( w ) {
                                                                                   /*! jQuery v1.11.2 | (c) 2005, 2014 jQuery Foundation, Inc. | jquery.org/license */
Ifunction(a,b){"object"==typeof moduless"object"==typeof module.exports?module.exports=a.document?b(a,10):function(a){if(la.document)throw new Error("jQuery
                                   if ( [w.document ) {
                                            throw new Error( "jQuery requires
                                   return factory( w );
         } else {
                  factory( global );
   Can't do this because several apps including ASP.MET trace
// the stack via arguments.caller.callee and Firefox dies if
// you try to trace through 'mse strict' call chains. (#13335)
// Support: Firefox 18+
var deletedīds = [];
var slice = deletedIds.slice;
```

requires a vindow with a document"; return b(a)); b(a)) ("undefined" |= typeof window window window; this, function(a, b) (var o=(), d=c.slice, e=c.concat, f=c.push, g=c.indexOf, h= {},i=h.toString,j=h.hasOwnProperty,k={},l=1.11.2',m=function(a,b){return new m.fl.init(a,b)},n=/'[\s\uFEFF\xX0]+[[\s\uFEFF\xX0]+\$/g.o=/'-ms-/',p=/-([\daz])/qi,q=function(a,b){return b.toTpperCase()};m.fn-m.prototype={jquery:l,constructor:m,selector:",length:0,toArray:function(){return d.call(thiss).oet:function(a)(return null!=a70>a7thiss(a+this:length:1:thiss).outhext.function(a)(return this.constructor().a):return b.prevObject=this,b.context-this.outhext,b).eech:function(a,b){return m.each(thiss).pushStack:function(a)(return this.pushStack(m.asp(this.function(b,o){return m.each(this,a,b)},asp);function(a)(return this.pushStack(m.asp(this.function(b,o){return m.each(this,a,b)},asp);function(a)(return this.pushStack(m.asp(this.function(b,o){return m.each(this.a,b)},asp);function(a)(return this.context.this.outh a.call(b,c,>)})), slice:function() return this.pushStack(d.apply(this,arguments))), first:function() (return this.eq(0)), last:function() (return this.eq(-1)), eq:function(a) (var b=this.length,c=\*a\*(0>a7b:0); return this.pushStack(c>=044b>c?[this[c]]:[)), end:function() (return this.eq(-1)), eq:function() (return th -parseFloat(a)+1>=0},isEmptyObject:function(a)(var b)for(b in a)return[];return[],isPlainObject:function(a)(var b;if([a||"coject"!==m.type(a)||a.nodeType||m.is%indow(a))neturn!];

try{if(a.constructorssij.call(a,"constructor")ssij.call(a.constructor.prototype,"isPrototypeOf"))return!!}catch(c){return!1}if(k.ownLast)for(b in a)return
j.call(a,b);for(b in a);return void 0===b||j.call(a,b)};type:function(a){return nill==a?a:":"object"==typeof a||Tunction"==typeof
a?h(i.call(s))||"object":typeof a};dlobalEval:function(b) &ssm.trim(b)&s(a.execScript||function(b)&s.eval.call(a,b));(b)};cameCase:function(a){return
a.raplace(o, "ns-").replace(p,q)},ndeName:function(a,b){return a.nodeNameSa.nodeNameSa.nodeNameCase()==b.toLowerCase();.each:function(a,b,c){var
d,e=0,f=a.lnngth,q=r(a);if(c){if(q){for(;f>e;e++)if(d=b.apply{a[e],c),d===11}breax}else for(e in a)if(d=b.apply{a[e],c),d===11}breax}else if(g)(for(;[>e;e++)if(d=b.call(a[e],e,a[e]),d===1)break)else for(e in a)if(d=b.call(a[e],e,a[e]),d===1]break;return a),trim:function(a)(return null==a?":(a+").replace(n,")),makeArray:fusction(a,b)(var c=b||[]return null=a&&(r(Object(a))?m.merge(c,"string"==typeof
a7[a]:a):f.rall(c,a)),c},inArray:function(a,b,c)(var d;if(b)(if(g)return g.call(b,a,c);for(d=b.length,c=c?O>c?Math.max(0,d+c):c:O;d>c;c++)if(c in aTalialif.cal(c,a),c},inhrray:function(a,b,c)(var d,if(b)(if(g))return g.call(b,a,c);for(d=b.length,c=c?0)c?Nath.max(0,d+c):c0;d>c;c++)if(c in bisb(c)===apreturn c);eturn-1),mergerfunction(a,b)(var d,e=(),f=0,g=a.length,d=0,e=a.length;while(c>d)a[e+r]=b[d+r]:fic(c==c)while(void 0l==b[d)]a[e+r]=b[d+r]:return d.f=0,g=a.length,b=0;q=f;f+r)d=0;a[f],f),d==hise.push(a[f]);return e],map:function(a,b,c)(var d,e=(),f=0,g=a.length,b=0;q=f;f+r)d=0;a[f],f),d==hise.push(a[f]);return e],map:function(a,b,c)(var d,e=(),f=0,g=a.length,b=0;q=f;f+r)d=0;a[f],f,c),null=dsi.push(d);return e],map:function(a,b)(var c,e,f;return\*atring\*=typeof\* bisc(f=i[b],b=a,=f),m.isFunction(a);c-d-call(argumenta);a,e=function() (return e.apply([],i);guid=i,proxy;function(a,b)(var c,e,f;return\*atring\*=typeof\* bisc(f=i[b],b=a,=f),m.isFunction(a);c-d-call(argumenta);a,e=function() (return e.apply([],i);a,c,d-call(argumenta);a,e=function(a);c-d-call(argumenta);a,e=function(a);a,e=function(a);a,e=function(a);a,e=function(a);a,e=function(a);a,e=function(a);a,e=functi







B

Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.

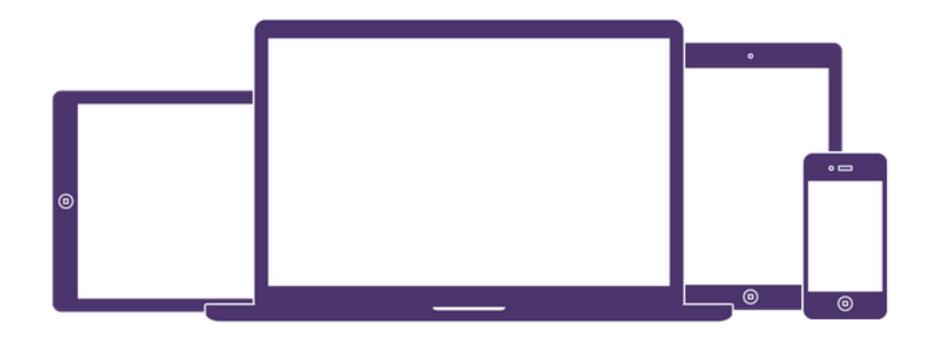
Download Bootstrap

Currently v3.3.4



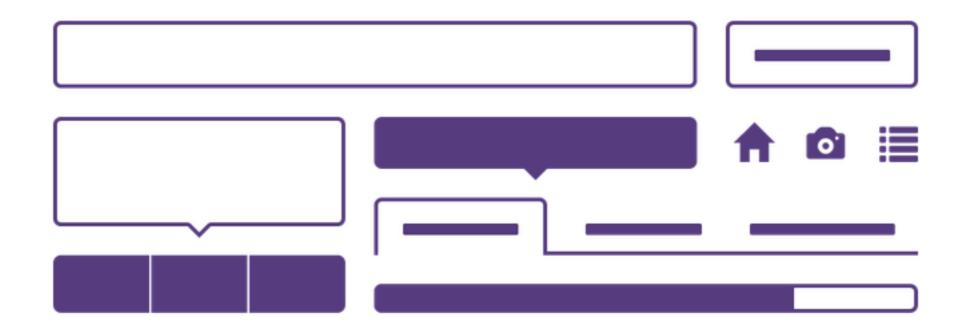
## Ny version på vej

- Vi ser på Bootstrap 3
- Bootstrap 4 er på vej
  - Er lige nu ude i en beta-version



### One framework, every device.

Bootstrap easily and efficiently scales your websites and applications with a single code base, from phones to tablets to desktops with CSS media queries.

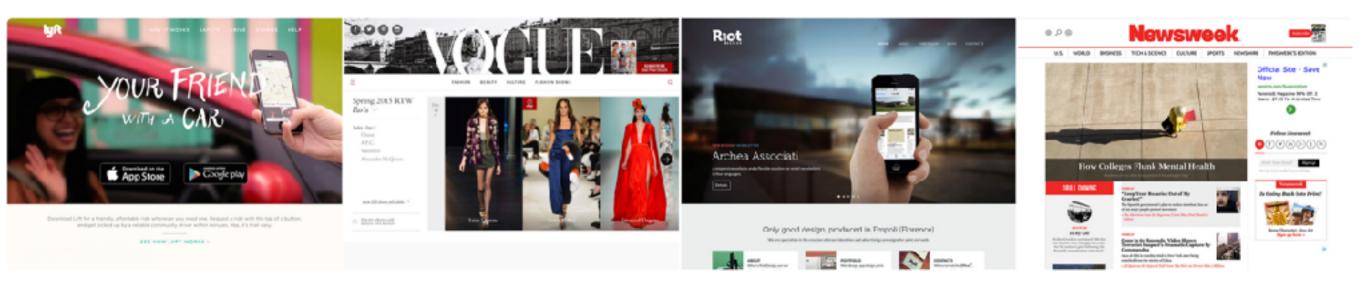


### Full of features

With Bootstrap, you get extensive and beautiful documentation for common HTML elements, dozens of custom HTML and CSS components, and awesome jQuery plugins.

### Built with Bootstrap.

Millions of amazing sites across the web are being built with Bootstrap. Get started on your own with our growing collection of examples or by exploring some of our favorites.



### Tutorials



w3schools.com

Masser af kurser på
 Lynda, også
 introduktion til version 4

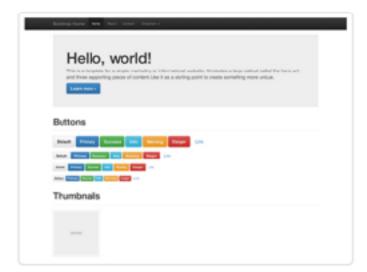
 Udmærket tutorial (Bootstrap 3) på https:// www.w3schools.com/ bootstrap/default.asp

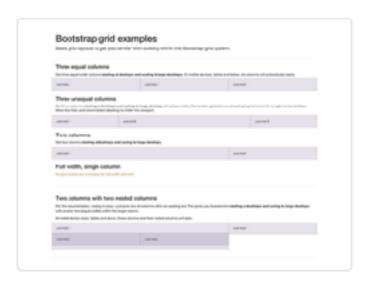
### Examples

Build on the basic template above with Bootstrap's many components. We encourage you to customize and adapt Bootstrap to suit your individual project's needs.

#### Using the framework

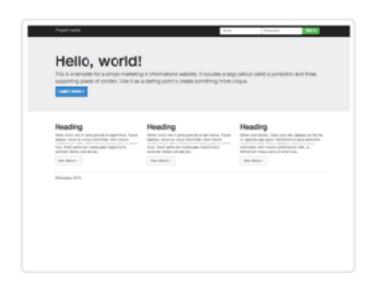






#### Starter template

Nothing but the basics: compiled CSS and JavaScript along with a container.



#### Bootstrap theme

Load the optional Bootstrap theme for a visually enhanced experience.



#### Grids

Multiple examples of grid layouts with all four tiers, nesting, and more.

#### Jumbotron

Build around the jumbotron with a navbar and some basic grid columns.

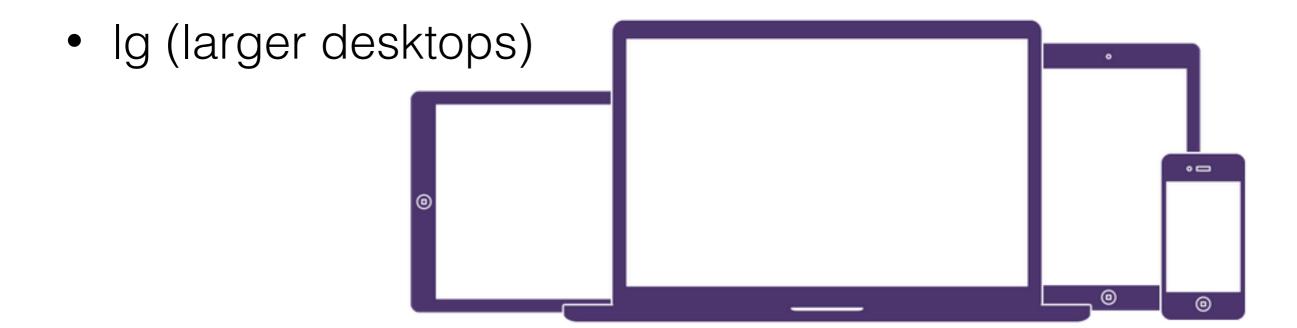
#### Narrow jumbotron

Build a more custom page by narrowing the default container and jumbotron.



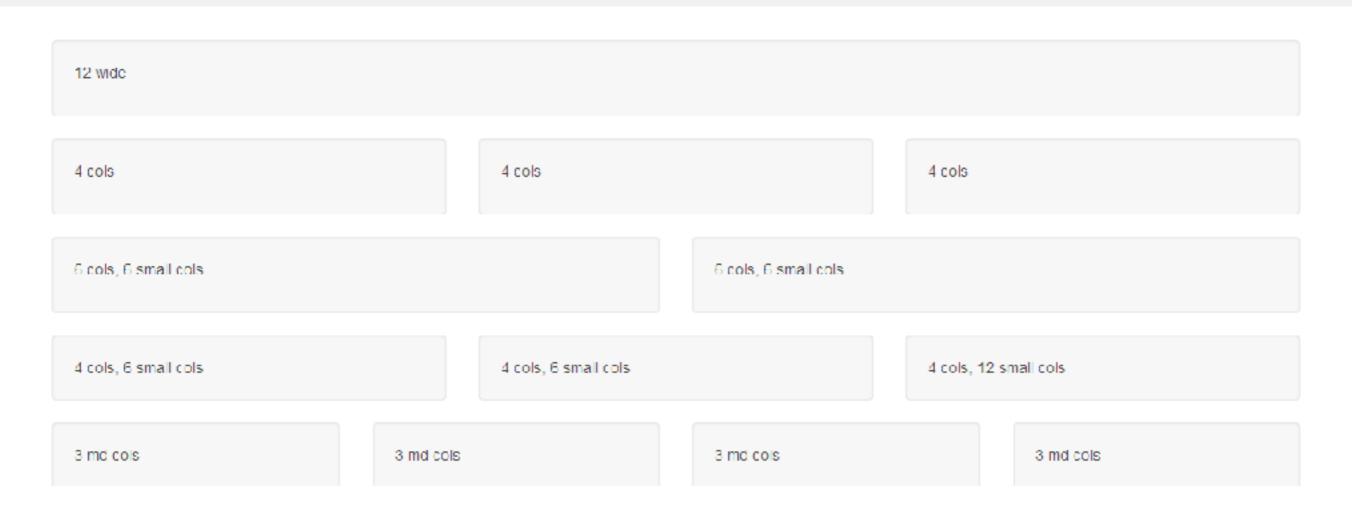
# Fire breakpoints

- xs (phones)
- sm (tablets)
- md (desktops)



### Bootstrap 3 Grid

See How it Stacks Up



http://getbootstrap.com/examples/grid/

### 

#### Intro Copy Headline

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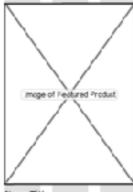


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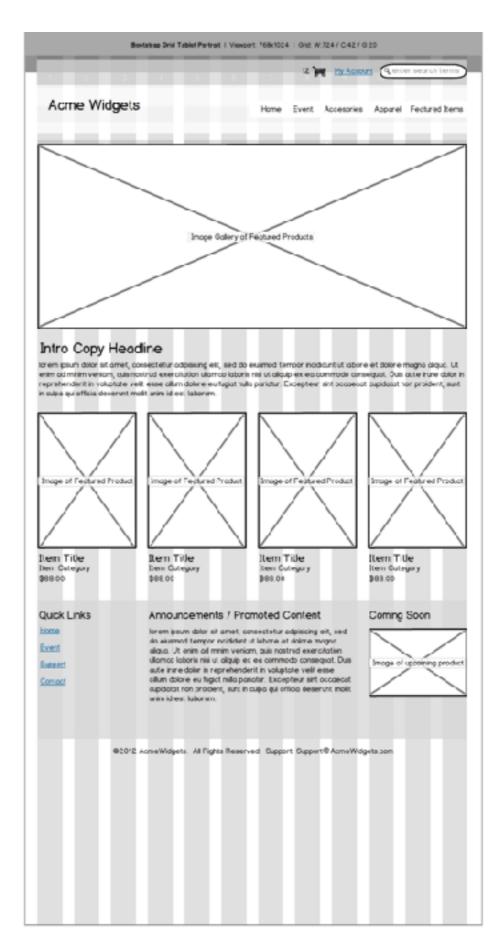
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#### Gerning Soon



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Support: Support®AcmeWidgets.com

#### Three equal columns

Get three equal-width columns starting at desktops and scaling to large desktops. On mobile devices, tablets and below, the columns will automatically stack.

.col-md-4	.col-md-4	.col-md-4
-----------	-----------	-----------

#### Three unequal columns

Get three columns starting at desktops and scaling to large desktops of various widths. Remember, grid columns should add up to twelve for a single horizontal block. More than that, and columns start stacking no matter the viewport.

.col-md-3	.col-md-6	.col-md-3
-----------	-----------	-----------

#### Two columns

Get two columns starting at desktops and scaling to large desktops.

.col-md-8

#### Full width, single column

No grid classes are necessary for full-width elements.

### Rart at vide

- Man indsætter en række med <div class="row">
- I den sætter man elementer med angivelse af hvor mange kolonner de skal fylde i hhv. xs, sm, md og lg
  - Ikke nødvendigt at angive alle fire, de skalerer opad.
     Sætter man for xs og md gælder xs også for sm, og md gælder også for lg dermed har man reelt to breakpoints
  - elementet angives med eks.<div class="col-xs-12 col-md-6">

# Gridregler

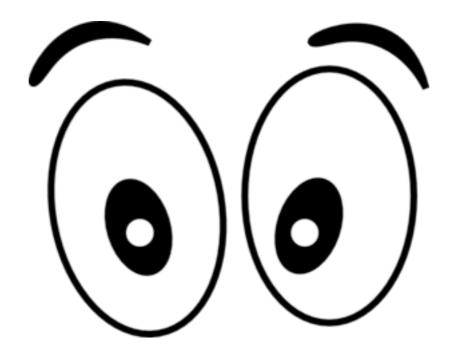
- Rækker skal være i en container (fixed-width) eller container-fluid (fuld bredde) for at fungere korrekt
- Indhold skal placeres i kolonner (col)
- Kun kolonner må være direkte inde i rækker (row)
- Brug de indbyggede klasser som row og col-sm-4
- Angiv hvor mange grid-kolonner en given kolonne skal fylde for et givent breakpoint (col-xs-12 col-sm-8 col-md-6 col-lg-3)
- Hvis du vil udnytte siden, skal en række fylde 12 kolonner i et givet breakpoint
- Kolonner skaber mellemrum med padding. Padding på yderste elementer styres med negativ margen på row



Masser af skabeloner til photoshop og illustrator (...men...)

# Komponenter

- De dele hvor du med specifik HTML aktiverer CSS og evt. javascript
- Eksempelvis en rød knap: <a href="#"
   class="btn btn-danger btn-xs"
   role="button">En lille rød knap</a>
- Se eksempler siden: <a href="http://getbootstrap.com/">http://getbootstrap.com/</a>
   examples/theme/
- Og http://getbootstrap.com/components/



Eksempler

## Øvelse

- Lave en side der anvender Bootstrap
- Der skal indgå mindst to rækker
- I hver række skal indgå kolonner der opfører sig forskelligt ved forskellige breakpoints
- Der skal indgå komponenter som knapper, navbar og panels

### Links

- https://www.sitepoint.com/7-reasons-not-to-use-a-cdn/
- http://www.awwwards.com/what-are-frameworks-22best-responsive-css-frameworks-for-web-design.html
- http://getbootstrap.com/
- Find komponenter her: <a href="http://getbootstrap.com/components/">http://getbootstrap.com/components/</a>
- Også eksempler og forklaringer på: <a href="http://www.w3schools.com/bootstrap/default.asp">http://www.w3schools.com/bootstrap/default.asp</a>