



WEB

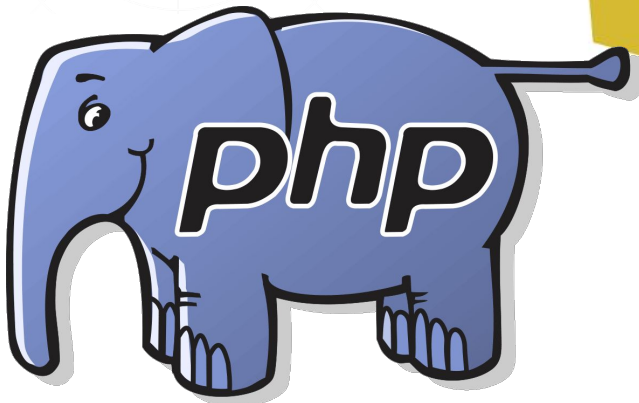


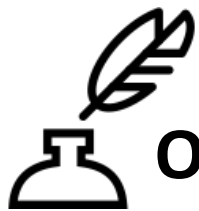
729G28

Webbprogrammering och databaser

Webbprogrammering(1)
Sahand Sadjadee
Linköping University, IDA

CSS





Outline

1. Webb
2. HTML
3. CSS
4. Javascript
5. Introduktion till PHP

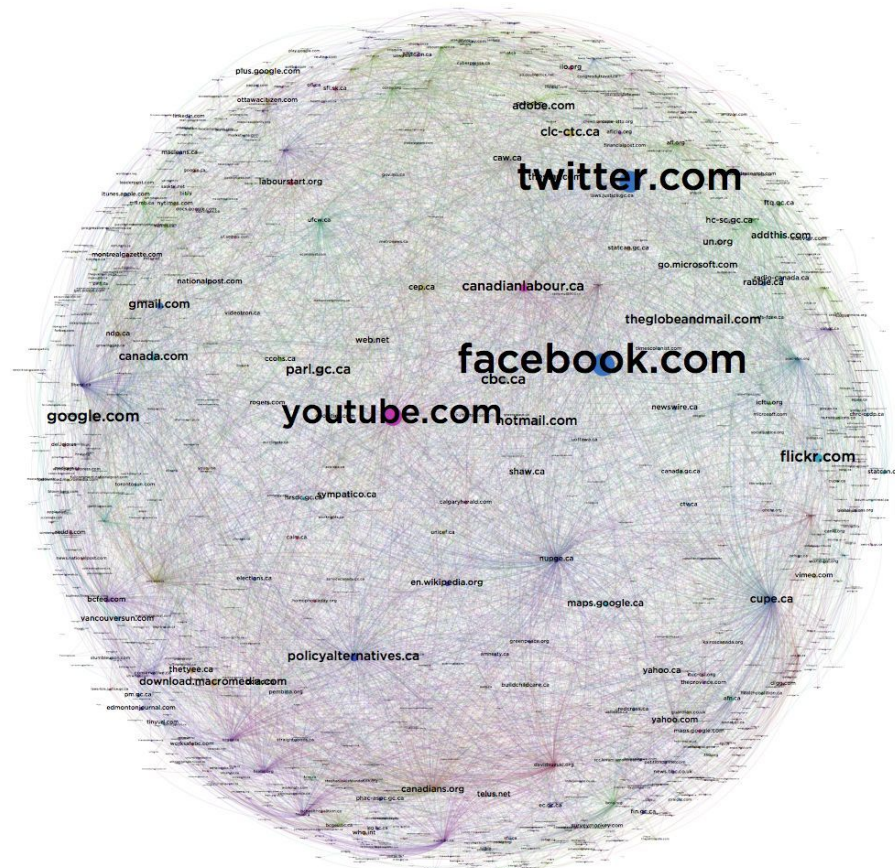
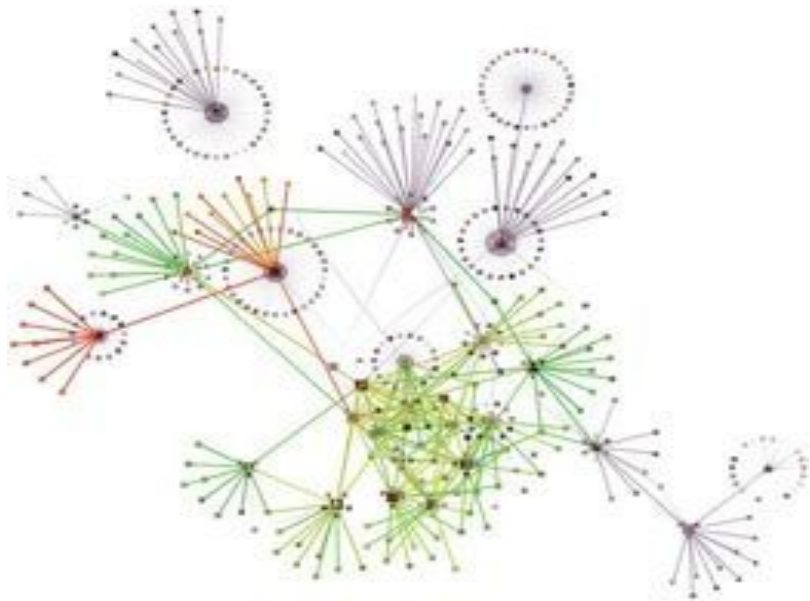
Webb

Webb är ett nätverk av sammanlänkade **webbsidor** som kan komma åt via HTTP protokollet. Sidorna ligger på olika maskiner(Servrar).



Webb

<http://www.worldwidewebsize.com/>

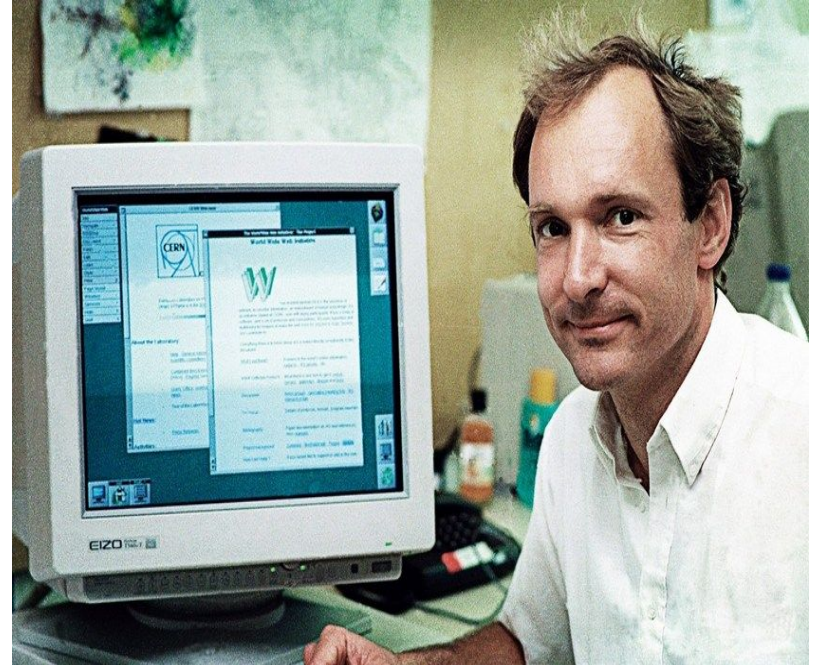


Webb/Uppfinnaren

Tim Berners-Lee

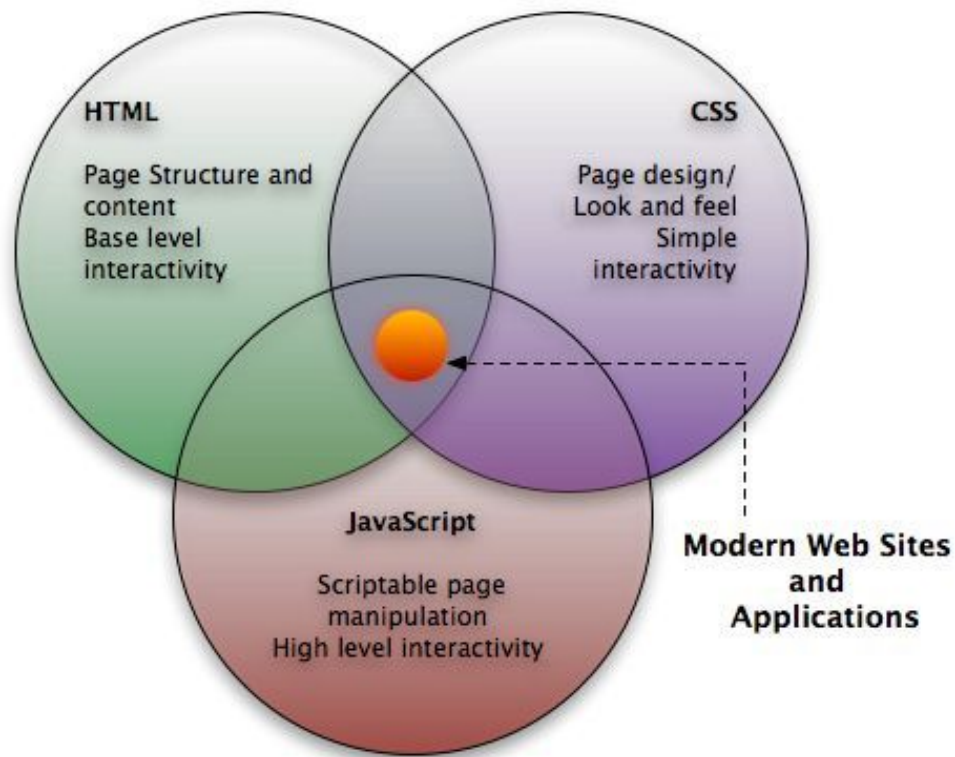
“Sir Tim Berners-Lee is a British computer scientist. He was born in London, and his parents were early computer scientists, working on one of the earliest computers.”,

<https://webfoundation.org/about/vision/history-of-the-web/>



Webb/Webbsida

En webbsida består av ...





Included with Prime Membership at No Additional Cost See more



Instantly watch unlimited movies & TV shows amazon Prime instant video Start Free Trial Watch as much as you want. Anytime you want. 30 DAY FREE TRIAL

Commute in Comfort See more

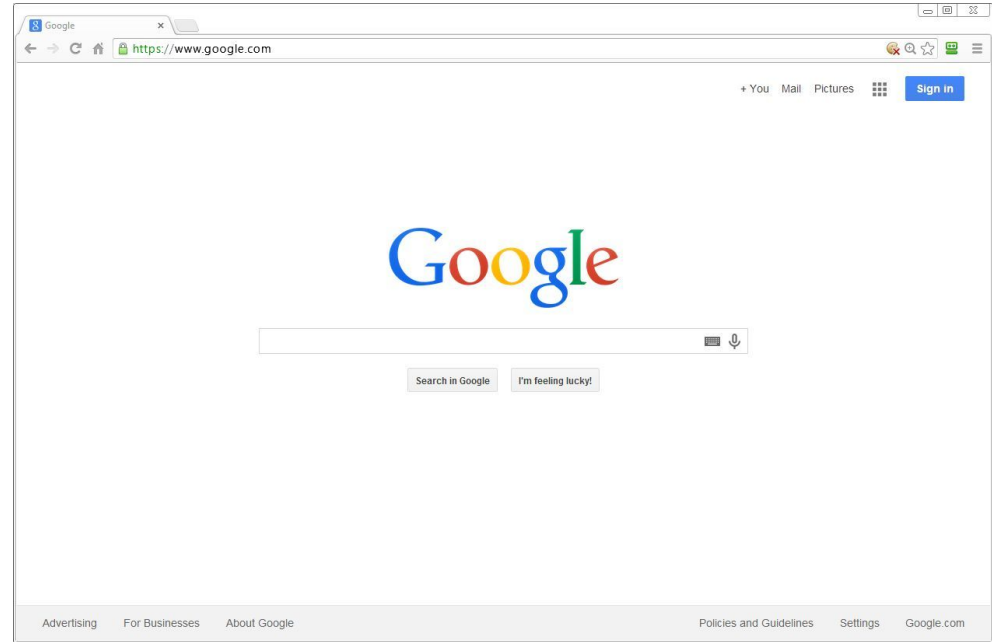


Return or Replace a Gift. Includes images of a blue and red wristband and a black square device.

Webb/Webbläsare(klient)



- webbläsare är ett program som läser/förstår bara HTML, CSS och Javascript och visualiserar dem som en webbsida för att kunna användas av användaren.
- Populära webbläsare:
Chrome, Firefox, Opera, Safari, Edge



Demo

Webb/Innehåll

En webbsida kan innehålla olika sorters medier, bilder, videor och ljud.

Exempel:

https://www.youtube.com/results?search_query=linköping+universitet

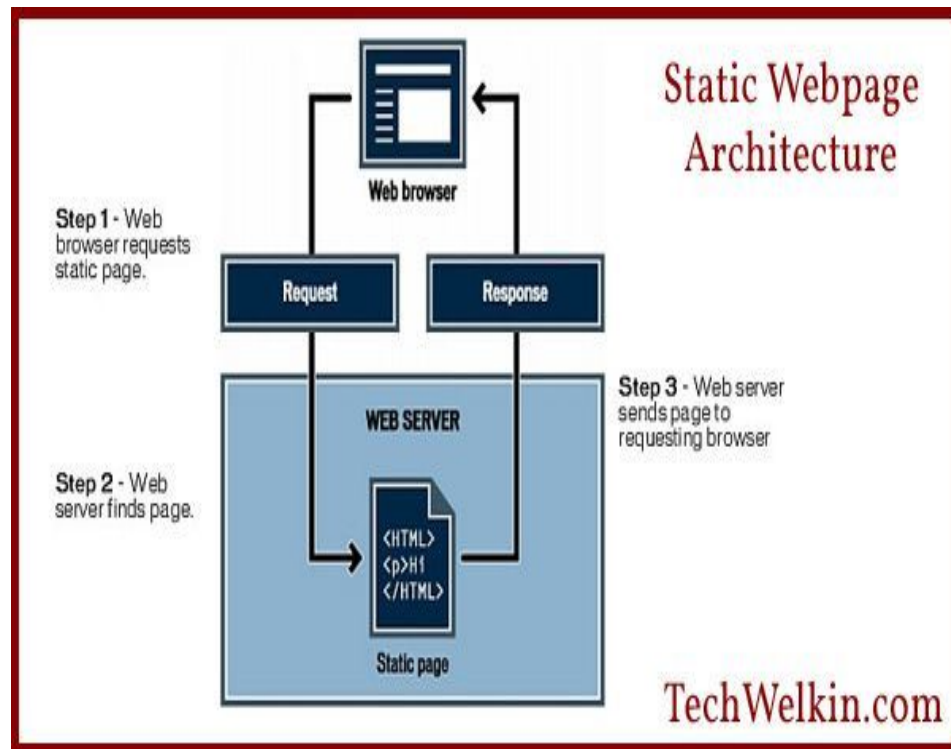


The screenshot shows a YouTube video player in a browser window. The video title is "Tecnologías de la información y la comunicación" by ANA MARIA GARCIA C. The video player shows a globe with the text "TECNOLOGÍAS DE LA INFORMACIÓN Y LA COMUNICACIÓN" and "ANA MARIA GARCIA C". The video has 34,292 views and a "Suscribirse" button with 1,109 subscribers. The channel name is "Tecnologías de la información y la comunicación". The browser window shows the URL "https://www.youtube.com/watch?v=i80YbH4E5c" and the search query "tecnologías de la información y la comunicación". The Windows taskbar at the bottom shows the date and time as 10:16 a.m. on 02/09/2013.

Webb/Statiska webbsidor

Oavsett hur många gånger en statisk webbsida begärs ska samma innehåll returneras.

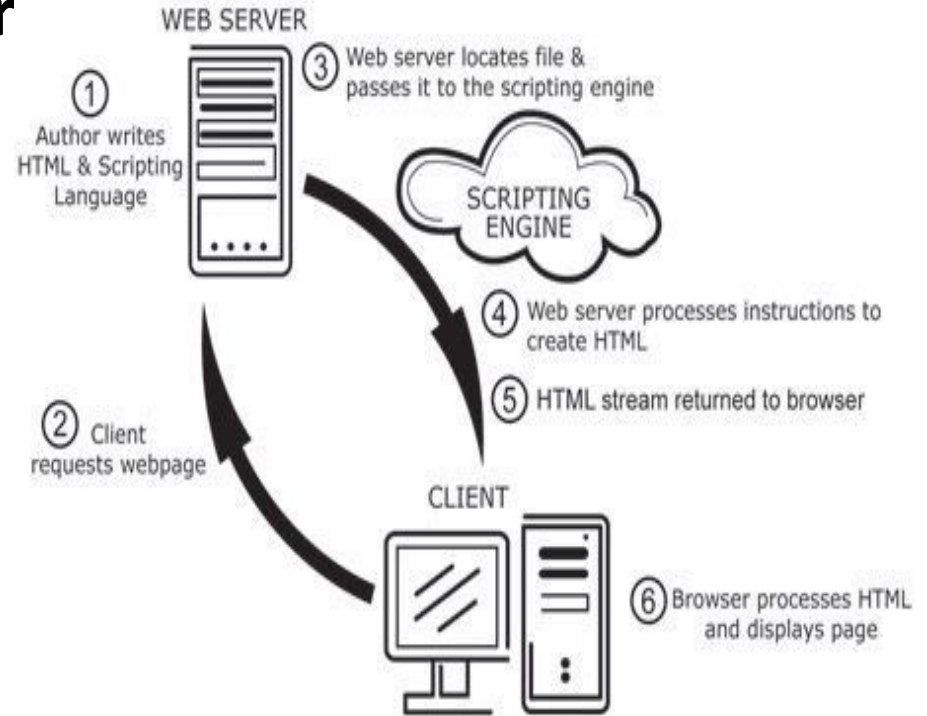
https://en.wikipedia.org/wiki/Static_web_page



Webb/Dynamiska webbsidor

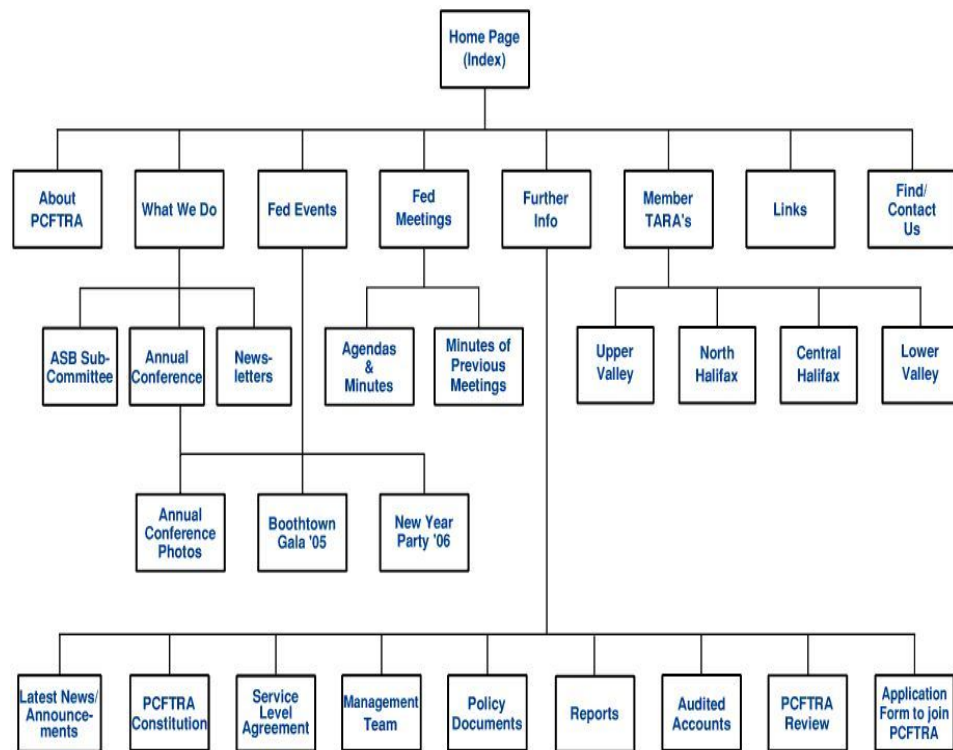
En dynamisk webbsida ska returnera olika innehåll baserat på emottagna parametrarna.

https://en.wikipedia.org/wiki/Dynamic_web_page



Webb/Webbplatser

En webbplats består av ett antal webbsidor, statiska och dynamiska, som tillhandahåller ett antal tjänster och uppgifter.



HTML

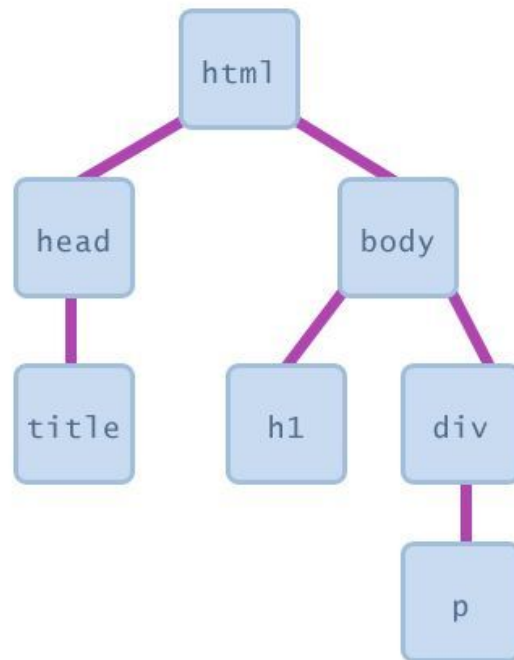


Webb/HTML

- HTML är ett språk som förstås av webbläsare.
- HTML-kod skrivs och sparas i `html`-filer.
- En `html`-fil kan länkas till flera andra `html`-filer genom att använda A-elementen.
- HTML används för att strukturera webbsidan och lägga till grafiskt och textbaserat innehåll till den.
- HTML tar fram ett begränsat antal grafiska komponenter såsom textfält, knappar och listor.
- Innehållet är format som ett träd.

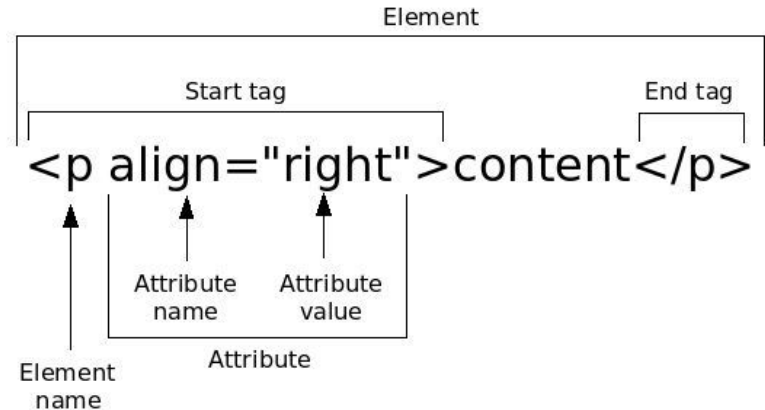
Webb/HTML

```
<html> <!-- Opening tag -->
  <head>
    <title>Sahand's diary</title>
  </head>
  <body>
    <h1>Welcome to my page</h1>
    <div>
      <p>
        I've got a lot to say...
      </p>
    </div>
  </body>
</html> <!-- Closing tag -->
```



Webb/HTML

```
<html> <!-- Opening tag -->
  <head>
    <title>Sahand's diary</title>
  </head>
  <body>
    <h1>Welcome to my page</h1>
    <div>
      <p>
        I've got a lot to say...
      </p>
    </div>
  </body>
</html> <!-- Closing tag -->
```



Webb/HTML historia

Version	Year
HTML	1991
HTML 2.0	1995
HTML 3.2	1997
HTML 4.01	1999
XHTML	2000
HTML5	2014

HTML/ Document elements

HTML	HTML	Tells browser that the included text is in HTML format	Element includes Head, Body, and other elements
HEAD	Header	Includes 'header', non-displaying information about the document, like the TITLE and other descriptive tags	Element can include Title, Meta, Base and other elements
TITLE	Document Title	Title that appears in Browser header and on bookmark lists. Should be concise and meaningful.	
BODY	Document Body	Defines the content of the document.	BGCOLOR, BACKGROUND, TEXT, LINK, ALINK, VLINK

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/e1/>

HTML/ Body elements

H1, H2, H3, H4, H5, H6	Heading	Text of the Element is a section heading. Headings are numbered and displayed in order of decreasing importance. Headings are separate paragraphs.
P	Paragraph	Defines paragraphs in the document. Usually paragraphs
BR	Break or Line Break	Puts a single break in the middle of a paragraph, list item, etc.
HR	Horizontal Rule	Runs a horizontal line across the page (or table cell)
DIV	Division	Defines a particular section of the document. Used to spread document attributes across a whole section.
BLOCKQUOTE	Block Quote	Displays a block of text quoted from another document. Usually indented on all four sides.
PRE	Preformatted Text	Uses formatting (spacing, tabs, carriage returns, breaks, etc.) exactly as in the plain ASCII text of the document.

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/e2>

HTML/ Style elements

STRONG	Strong emphasis	(logical formatting). Very important text. Generally displays as Bold.
EM	Emphasis	(logical formatting) Important text. Generally displays as Italic
CITE	Citation	Title of a cited work. Generally displays as Italic
CODE	Computer Code	Indicates computer code, such as programming languages, computer commands, etc. Usually displays in a fixed font.
B	Bold	Displays text as bold.
I	Italic	Displays text as italic
U	Underline	Shows text as underlined (not supported by older versions of Netscape).
TT	Fixed font	Displays text in a 'fixed' font (in which each letter is the same size, such as Courier)-- similar to PRE , CODE, etc.
FONT	Font appearance.	Sets relative or absolute font size, font color.

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/e3>

HTML/ Anchor element

A HREF="URL"	Hypertext link (Special case of the Anchor element)	Allows the user to retrieve the document at the specified URL by clicking on the contents of the element. (Usually displayed as blue and underlined.) The URL may include a named target.	NAME, REL, REV URN,TITLE,TARGE T
	Go to named anchor section	Go to named anchor section .	
A NAME="name"	Named Anchor, or target	Sets a 'target'/'anchor' which hypertext links can point to.	HREF, REL, REV URN,TITLE,TARGE T
	Named Target	Named Target	

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/e4>

HTML/ Image element

IMG	Image	Displays an 'inline' (embedded in the document) image in the document. Source (SRC="") gives the full or partial URL of the image file to use; ALT gives the alternative/caption text for the image	SOURCE, ALT, HEIGHT, WIDTH, BORDER
	<pre></pre>		

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/e5>

HTML/ List elements

UL	Unordered List	Bullet List. Items in the list are LI elements. Lists can be nested.
OL	Ordered List	Numberd (or lettered) list. Items in the list are LI elements. Lists can be nested.
LI	List item	An item in a bullet or numbered list. List items can include other lists (nesting lists), line breaks, and other HTML tags. Close tags are optional.
DL	Descriptive List or Definition List	A list of terms with definitions or entries with annotations. Contains DT and DD elements. DT elements are the 'terms' or main entries DD elements are the definitions or annotations.
DT	Term in Definiton list	In an annotated list, the item or term being annotated
DD	Definition in Definition list	In an annotated list, the annotation or definition

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/e6>

HTML/ Attribut

- All HTML elements can have **attributes**
- Attributes provide **additional information** about an element
- Attributes are always specified in **the start tag**
- Attributes usually come in name/value pairs like: **name="value"**

Några vanliga attribut

alt: Specifies an alternative text for an image, when the image cannot be displayed

disabled: Specifies that an input element should be disabled

href: Specifies the URL (web address) for a link

id: Specifies a unique id for an element

class: Specifies an id for several elements.

src: Specifies the URL (web address) for an image

style: Specifies an inline CSS style for an element

title: Specifies extra information about an element (displayed as a tool tip)

https://www.w3schools.com/html/html_attributes.asp

Exempel:

```
<p title="I'm a tooltip">This is a paragraph.</p>
<a href="https://www.w3schools.com">This is a link</a>

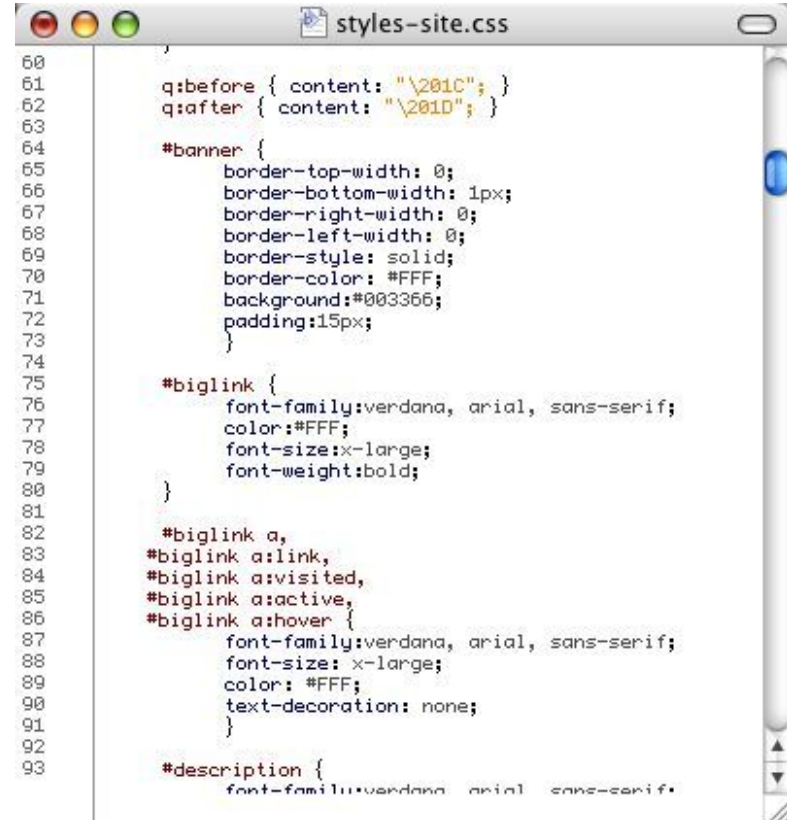

<a href="https://www.w3schools.com">
```



Webb/CSS

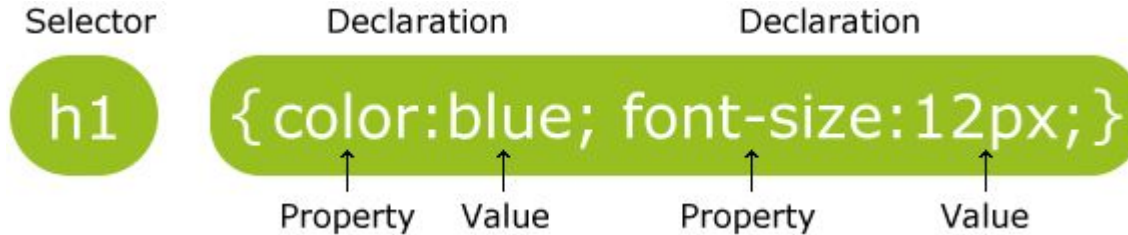
- **CSS** stands for **Cascading Style Sheets**
- CSS describes **how HTML elements are to be displayed on screen, paper, or in other media**
- CSS **saves a lot of work**. It can control the layout of multiple web pages all at once
- External stylesheets are stored in **CSS files**

https://www.w3schools.com/css/css_intro.asp



```
60
61 q:before { content: "\201C"; }
62 q:after { content: "\201D"; }
63
64 #banner {
65     border-top-width: 0;
66     border-bottom-width: 1px;
67     border-right-width: 0;
68     border-left-width: 0;
69     border-style: solid;
70     border-color: #FFF;
71     background:#003366;
72     padding:15px;
73 }
74
75 #biglink {
76     font-family:verdana, arial, sans-serif;
77     color:#FFF;
78     font-size:x-large;
79     font-weight:bold;
80 }
81
82 #biglink a,
83 #biglink a:link,
84 #biglink a:visited,
85 #biglink a:active,
86 #biglink a:hover {
87     font-family:verdana, arial, sans-serif;
88     font-size: x-large;
89     color: #FFF;
90     text-decoration: none;
91 }
92
93 #description {
94     font-family:verdana, arial, sans-serif;
```

CSS/rule-set



- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a CSS property name and a value, separated by a colon.
- A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

https://www.w3schools.com/css/css_syntax.asp

CSS/Selectors

Element selector: The element selector selects elements based on the element name.

```
p {  
  text-align: center;  
  color: red;  
}
```

Id selector: The id selector uses the id attribute of an HTML element to select a specific element.

```
#para1 {  
  text-align: center;  
  color: red;  
}
```

Class selector: The class selector selects elements with a specific class attribute.

```
.center {  
  text-align: center;  
  color: red;  
}
```

https://www.w3schools.com/css/css_syntax.asp

CSS/Seperations of concerns

CSS koden ska finnas i fil(er) med .css extension. En html fil kan peka på en eller flera css filer genom att använda <link> elementen som ligger i <head> elementen.

```
<head>
```

```
<link rel="stylesheet" type="text/css" href="nåtnamn.css">
```

```
</head>
```

CSS/Vanliga CSS egenskaper

https://developer.mozilla.org/en-US/docs/Web/CSS/CSS_Properties_Reference



Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/css>



JavaScript

Javascript

“Javascript is a programming language used to make webpages interactive. It is what gives a page life—the interactive elements and animation that engage a user. If you've ever used a search box on a home page, checked a live baseball score on a news site, or watched a video, JavaScript is probably running through it.”

<https://www.thoughtco.com/what-is-javascript-2037921>

Javascript

Javascript används för att styra webbsidans beteende. Koden körs av webbläsaren på klientsidan. Liksom CSS ska Javascript-koden ligga i en eller flera separata filer. .js extensionen används istället för .css.

Ett html-dokument kan peka på en eller flera .js filer. Elementet `<script>` används för att peka på/använda .js filer:

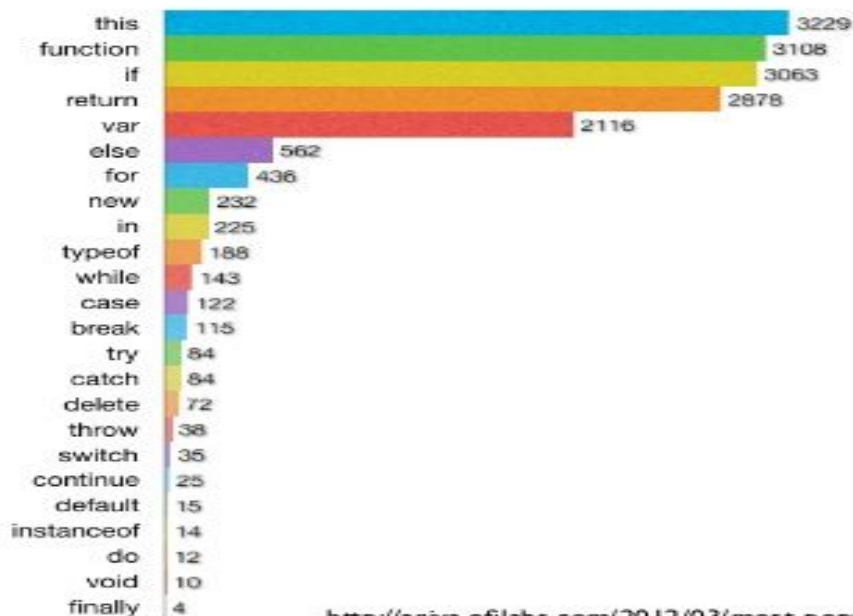
```
<script type="text/javascript" src="javascript.js"></script>
```

Oobs! Det är inte krav i den här kursen att använda Javascript.

<https://www.w3schools.com/Js/>

Keywords in JavaScript

Keyword Frequency



<http://ariya.ofilabs.com/2012/03/most-popular-javascript-keywords.html>

@johnwilander

Statistics from:
jQuery
jQuery.Mobile
Prototype
Ext JS
MooTools
Backbone
Underscore

https://www.w3schools.com/js/js_reserved.asp

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/static/javascript>



PHP/Serverscript

Kör ett program på servern och resultatet ska skickas till klienten
PHP, Python, Ruby, Perl, ASP, C, Java, ...



Men varför?

<https://www.thoughtco.com/what-is-javascript-2037921>

PHP/Serverscript

Kan man implementera en sökmotor bara genom att använda HTML/CSS/Javascript?

The screenshot displays a flight search interface with the following sections:

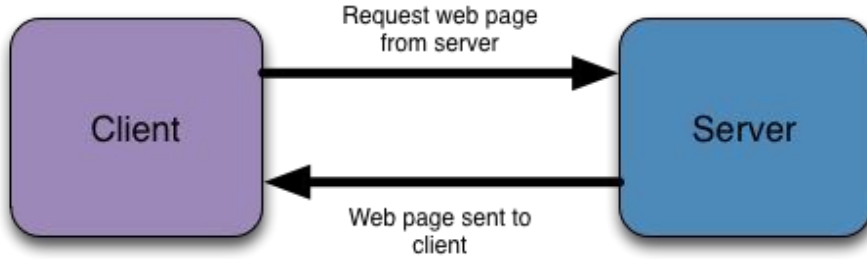
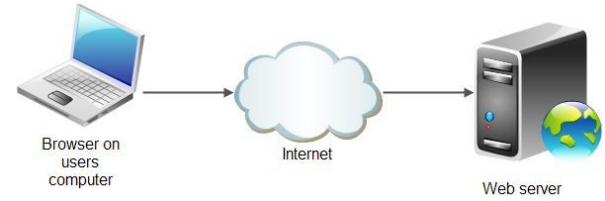
- Search Options:** Radio buttons for "Tur & retur (flyg)", "Enkelresa (flyg)", and "Multi-city (open j)". A message says "You have gone full screen. Exit full screen (F11)".
- Search Fields:** "Från" and "Till" input fields with airplane icons.
- Calendar:** Two calendar views for "April 2016" showing "Utresedatum" and "Hemresedatum".
- Filters:** "Enkelresa" checkbox, "Resenärer" dropdown (set to "1 vuxen"), and "0 barn" dropdown. A "Sök även närliggande datum" checkbox is present.
- Search Button:** A yellow "Sök flygresor" button with a magnifying glass icon.
- Senast sökta resan:** A list of recent searches with prices in kr:
 - Köpenhamn till Washington, D.C. (3 pers) 15 780 kr
 - Stockholm till Östersund (1 pers) 1 359 kr
 - Stockholm till Faro (2 pers) 4 624 kr
 - Göteborg till Santander (2 pers) 2 792 kr
 - Köpenhamn till Florens (4 pers) 10 036 kr
 - Göteborg till Bukarest (3 pers) 8 532 kr
- Billigast resor:** A table of cheap flights:

Stockholm till	Göteborg till	Köpenhamn / Malmö till
1. London 382 kr	1. Barcelona 878 kr	1. Bangkok 2 877 kr
2. Bangkok 2 496 kr	2. London 408 kr	2. Stockholm 383 kr
3. Amsterdam 800 kr	3. Paris 862 kr	3. Bologna 505 kr
4. Dubai 1 861 kr	4. Istanbul 974 kr	4. Bergen 389 kr
5. Istanbul 351 kr	5. Gdansk 333 kr	5. Budapest 505 kr
6. Alicante 803 kr	6. Malaga 1 189 kr	6. Trondheim 513 kr
- Mest sökta flyg:** A list of popular destinations:
 - Bangkok, Thailand
 - Dubai, Förenade Arabemiraten
 - Amsterdam, Nederländerna
 - Los Angeles, USA
 - Beirut, Libanon
 - Phuket, Thailand
- SPARA TID OCH PENGAR:** A promotional box encouraging users to subscribe to a newsletter.

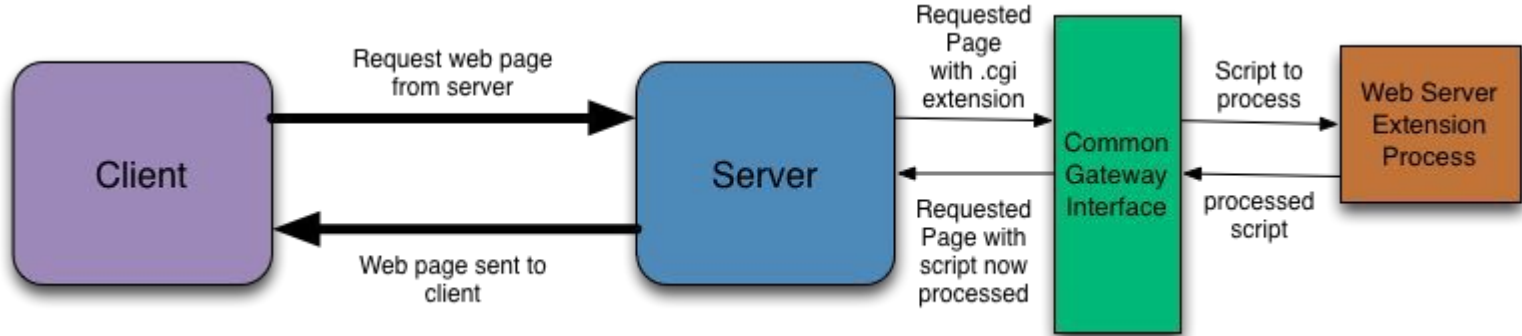
Bli först med att ta del av de senaste billiga resorna.
Prenumerera på vårt nyhetsbrev!

Fyll i din e-postadress

PHP/Serverscript



VS



PHP/Serverscript

- Dynamiska webbsidor.
- Tar kraft av server inte klient.
- Kan användas tillsammans med databas på servern.
- Datan och logiken finns på server-sidan.
 - Tillgång till databasen kan och ska kontrolleras.
 - logiken finns på server-sidan och kan inte ses av användaren. Det hjälper bättre säkerhet.
- Klienten kan bara se resultatet och INTE php koden själv.
- Hantera och reagera på data som skickas från klienten.
- Det är så vanligt att Serverskript och HTML/CSS/Javascript är kombinerad. E.g. PHP, JSP, ASP, ASP .NET.
- Men varför behöver vi skicka data till server-sidan för att få dynamiska webbplatser fungera?

PHP

- Skrivs tillsammans med HTML
- Resultat - HTML
- Free Software
- Stort, populärt och användbart
- <http://php.net>
- Kan användas med databaser (MySQL).



PHP/Server



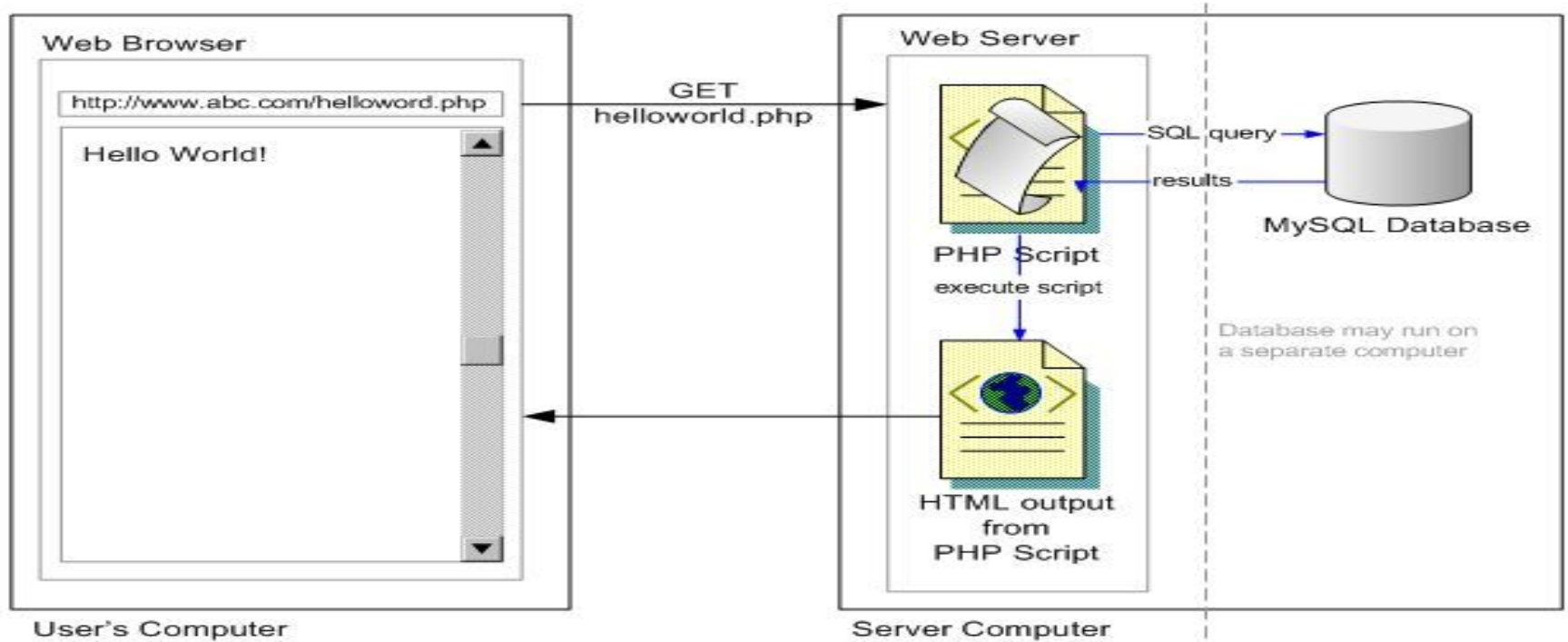
Varje student har sitt eget utrymme på LiUs webserver. Webbservern läser filer från mappen /wwwpub/liuid123 — där ska du lägga dina HTML, PHP, och CSS filer, då kan webbservern läsa dem.

<https://www.ida.liu.se/~729G28/labbar/referens.sv.shtml>

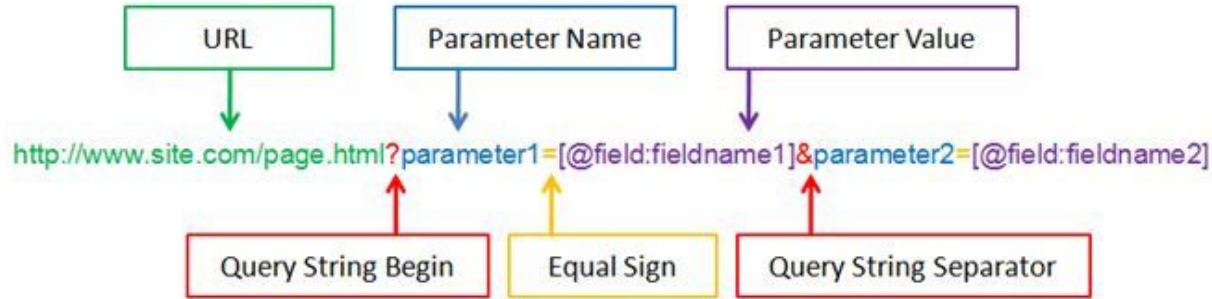
PHP/Exempel

```
1 <html>
2 <head>
3   <title>PHP Test</title>
4 </head>
5 <body>
6
7   <?php echo '<p>Hello World</p>'; ?>
8
9 </body>
10 </html>|
```

PHP/Exempel



PHP/Query String



- <https://www.youtube.com/watch?v=QIDBbENAlgk>
- https://www.amazon.com/s/ref=nb_sb_noss_1?url=search-alias%3Dstripbooks&field-keywords=laptop&rh=n%3A283155%2Ck%3Alaptop

PHP/Formulär

För kort text:

- `<input type="text" .../>`

För lång text:

- `<textarea ...></textarea>`

För ett och endast ett av flera alternativ:

- `<input type="radio" .../>`

För inget, ett eller flera alternativ:

- `<input type="checkbox" .../>`

För rullgardinsmeny:

- `<select><option ...>...</option></select>`

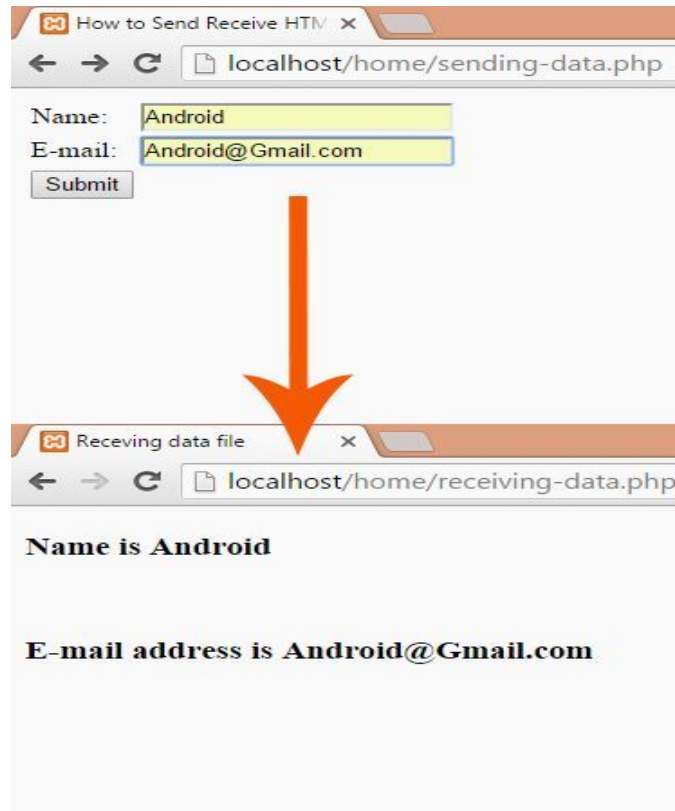


A screenshot of a web form with the following elements:

- A single-line text input field with the placeholder text "Skriv text här".
- A multi-line text area with the placeholder text "Skriv flera rader med text här".
- Two radio buttons: "Ja" (selected) and "Nej".
- Three checked checkboxes: "Äpple", "Apelsin", and "Päron".
- A dropdown menu with "Äpple" selected.

PHP/Formulär

- Formulär skickas till action
 - `<form action="ta_emot.php" .../>`
- Formulär skickas med submit
 - `<input type="submit" .../>`
- Värderna hämtas med
 - `$myvalue = $_GET['myvalue'];`
 - `$myvalue = $_POST['myvalue'];`beroende på vad man satt för method
 - `<form ... method="post" ...>`
 - `<form ... method="get" ...>`



PHP/Formulär

För tillgänglighet och användbarhet tänk på att:

- man ska kunna klicka på label-text för att markera ett fält. Kod:
 - `<label for="example">My label</label>`
 - `<input id="example" />`

Eller

- `<label><input id="example" />My label</label>`
- ha en fungerande layout
- validera data innan skickas.

Exempel: <http://www.ida.liu.se/~sahsa74/729G28/examples/php/form1>



Tack och lycka till!