

Web Programming

What doesn't kill you makes you stronger :D

Sebelum kelas, pastikan:

1. Peserta kelas wajib memiliki *account* di codecademy.com
2. Tugas praktikum merupakan gabungan *courses* di codecademy.com dan tugas mandiri (*paper based*).
3. Kelas dibagi menjadi 4 kelompok untuk keperluan presentasi
4. Project akhir berupa membangun sebuah aplikasi berbasis web dinamis sederhana. Topik project akhir bebas namun **sedikitnya** meliputi fungsi berikut:
 - Manajemen user
 - Manajemen konten
 - Autentikasi

Your turn

Final project presentation starting from the sixth week of class onwards ... (each class 1 group presents their theme)

- Develop project from the ground up

- Find problems and work it out as a group

- functionality is the main assessment points

- Work together in the group and use version controlling such as GIT and the like (if you don't know what I am talking about then ... Google it!)

Your presentation will consists of: basic layout of your website/apps and their basic functionality

Midterm test (UTS) is to test your ability in programming by solving some test problems

Codecademy.com

The screenshot displays the Codecademy website interface. At the top, there is a navigation bar with links for 'All Courses', 'Web Development', 'Languages', 'Tools', 'APIs', and 'Data Analytics'. A 'Sort by' dropdown menu is set to 'Default'. Below the navigation bar, a grid of course cards is shown. The top row features four cards: 'Learn HTML' (with a red oval around the HTML icon), 'Learn CSS' (with a red oval around the CSS icon), 'Learn Responsive Design' (with a red oval around the responsive design icon), and 'Introduction To JavaScript' (with a red oval around the JavaScript icon). The bottom row features four cards: 'Learn Git' (with a blue oval around the Git icon and a progress bar at 25%), 'Learn SQL' (with a red oval around the SQL icon and a progress bar at 100%), 'SQL: Table Transformation' (with a blue oval around the SQL icon and a progress bar at 0%), and 'SQL: Analyzing Business Metrics' (with a blue oval around the SQL icon and a progress bar at 0%). Each card includes a title, a brief description, and an estimated completion time.

Top Row Courses:

- Learn HTML**
Learn the basics of HTML, the essential language of the web. This course covers version 5 of HTML.
Estimated 3 hours
- Learn CSS**
Learn how to style and visually organize HTML with CSS. This course covers version 3 of CSS.
Estimated 9 hours
- Learn Responsive Design**
Learn responsive design techniques, like relative sizing units and media queries, to create websites viewable on devices of all sizes.
Estimated 3 hours
- Introduction To JavaScript**
Learn the fundamentals of JavaScript, the programming language of the web.
Estimated 35 hours

Bottom Row Courses:

- Learn Git**
Learn to save and manage different versions of your code projects with this essential tool.
25%
- Learn SQL**
Learn to communicate with databases using SQL, the standard data-management language.
100%
- SQL: Table Transformation**
Practice more SQL in this course that covers how to manipulate and transform data.
Estimated 5 hours
- SQL: Analyzing Business Metrics**
Explore SQL further in this course focusing on how to analyze data.
Estimated 2 hours

Dynamic web

It's the web we love

It all started at CERN ...

Conseil Européen pour la Recherche Nucléaire

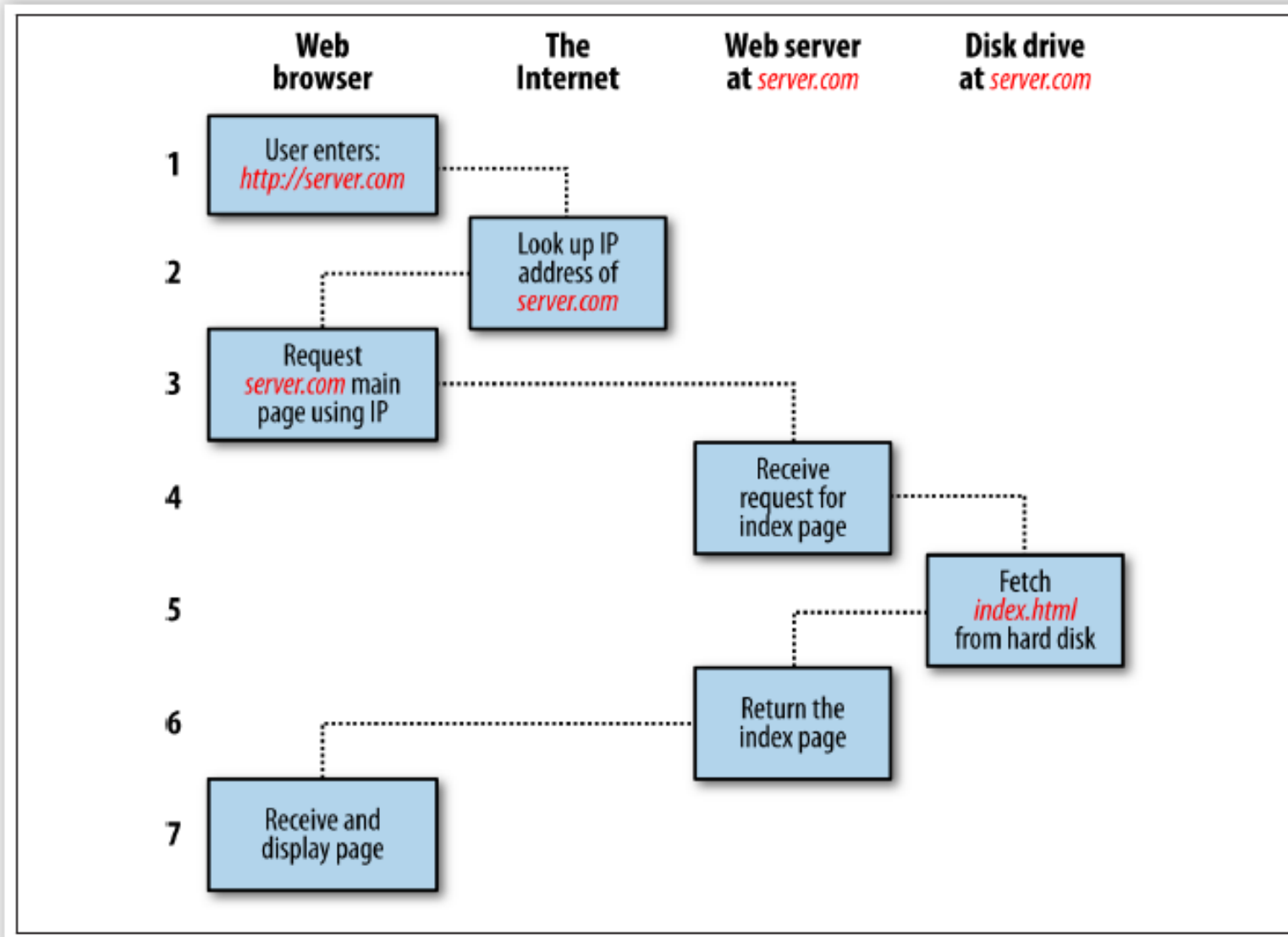
European Laboratory for Particle Physics— known today as the operator of the LHC (Large Hadron Collider)

Big data

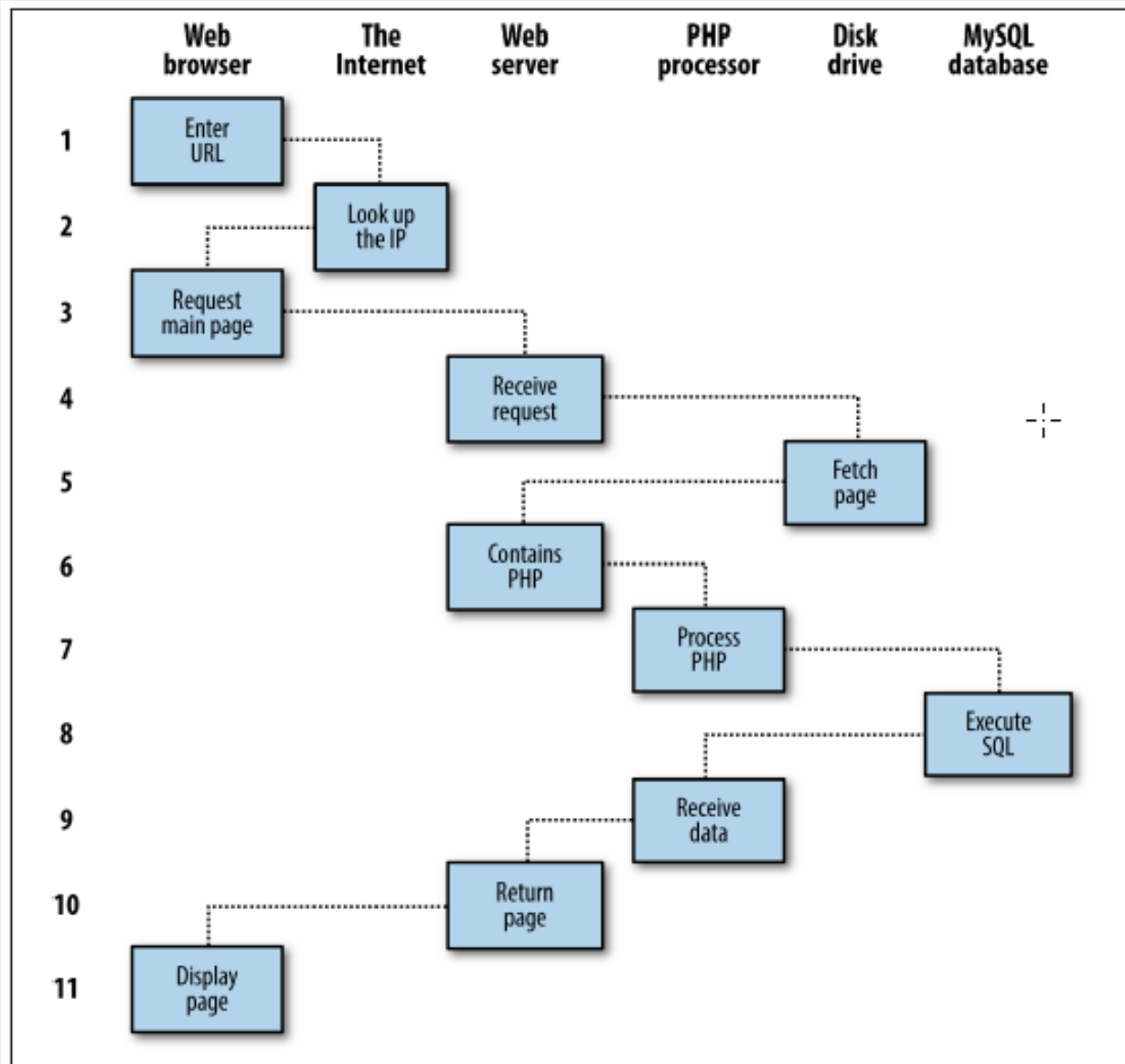
Tim Berners-Lee

HTTP – HTML – Web Server – Web Browser

Basic client/server request/response sequence



Dynamic Web Request



The story continues ...

World of Web 1.0

Web 1.1

Browser enhancement – Java, Javascript, Jscript dan ActiveX

Server side – CGI

The persisting technology HTML, PHP/MySQL, Javascript dan CSS

Dynamic website – umbrella terms for a combination of several web technologies

PHP, MySQL, JavaScript, CSS, and HTML5, Web Server (Apache)

HTML5 and CSS3

HTML5

- New Semantic/Structural Elements

- New Form Elements

- New Input Types

- New Graphics tags

- New media elements

CSS3

- CSS Animations and Transitions

- Advanced Selectors

- Generated Content and Counters

- ...and so on

In a nutshell

The real beauty of PHP, MySQL, JavaScript, CSS, and HTML5 is the wonderful way in which they all work together to produce dynamic web content

PHP handles all the main work on the web server

MySQL manages all the data

the combination of CSS and JavaScript looks after web page presentation.

JavaScript can also talk with your PHP code on the web server whenever it needs to update something (either on the server or on the web page)

And with the powerful new features in HTML5, such as the canvas, audio and video, and geolocation, you can make your web pages highly dynamic, interactive, and multimedia packed.

Internet Protocols – HTTP Request Response

Review:

Ketika anda mengetikkan www.google.com apa yang terjadi? Dan apa yang terjadi?

Preliminary Quiz

1. Apakah empat komponen (paling sedikit) yang dibutuhkan untuk menciptakan *dynamic web page*?
2. Apa kepanjangan dari HTML?
3. Mengapa nama MySQL mengandung huruf SQL?
4. PHP dan JavaScript adalah bahasa pemrograman yang memberikan hasil halaman web yang dinamis. Apa perbedaan mendasar dari keduanya? Mengapa anda sebaiknya menggunakan keduanya?
5. Apa kepanjangan dari CSS? Mengapa CSS penting?
6. Tulis tiga elemen baru yang penting dalam HTML5.
7. Bila anda mendapati bug (jarang terjadi) pada salah satu *open source tools*, bagaimana menurut anda cara (anda/orang lain) memperbaikinya?