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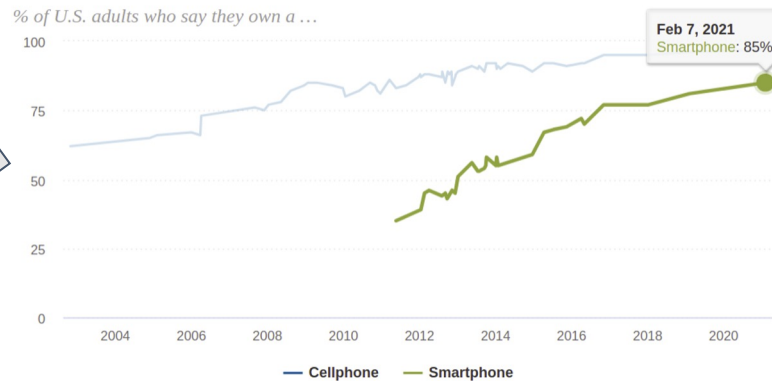
Introduction to the Internet and Web Framework

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Why we need to understand web & mobile platform?

- ❑ Internet as primary needs
 - ❑ Application delivery on Internet as a Web Application
- ❑ Website as landing page for services, mobile applications for personalized interactions

- ❑ Mobile phone users: 85% (US Survey)
- ❑ Services deliver over mobile Apps



Introduction to the Internet

The Internet & the Web

- The Internet: a global network of computers



The World Wide Web (WWW, or simply Web) is an **information space** in which the items of interest, referred to as resources, are identified by global identifiers called Uniform Resource Identifiers (URI)."

-(W3C's [Architecture of the World Wide Web, Volume I](#))

URI

(identifier)

ISBN 0-486-27557-4

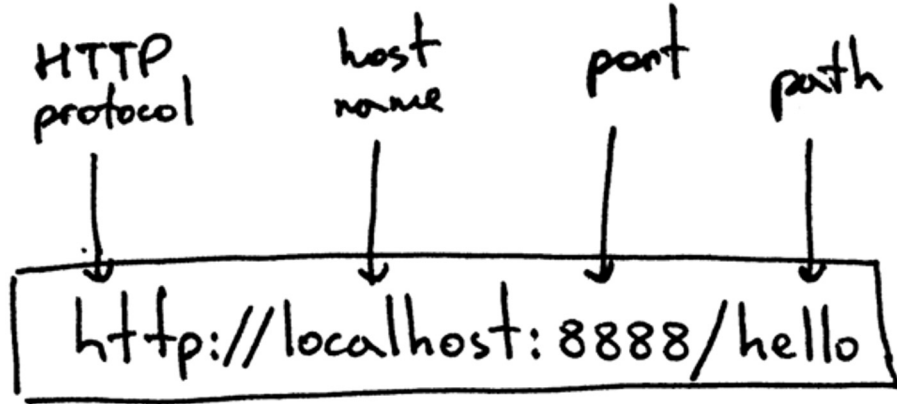
URN
(name)

urn:isbn:0-486-27557-4

URL
(locator)

<https://google.com>
<https://myweb.com/file/learn.pdf>

URI / URL

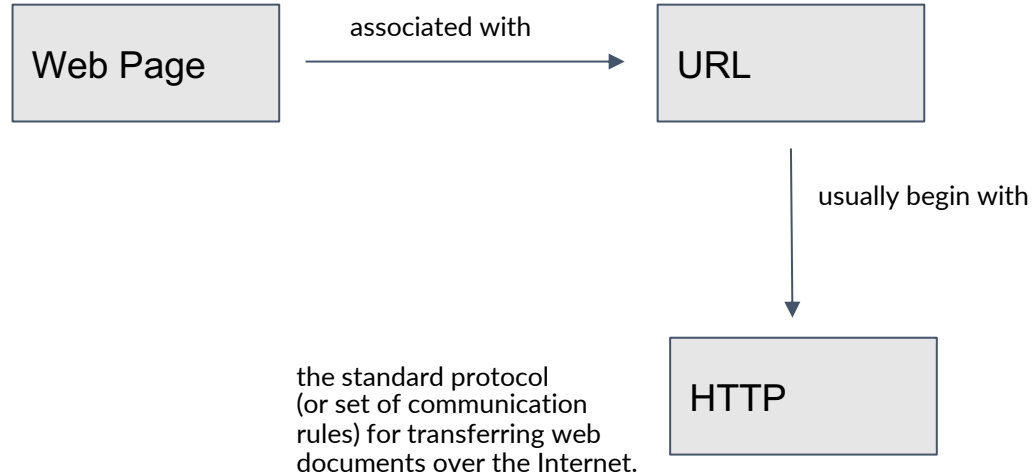


URIs (Uniform Resource Identifiers) that specify document locations are called URLs (Uniform Resource Locators).

- **host** dapat berupa **hostname** atau berupa **IP address**.
- Jika berupa hostname, contohnya **localhost**.
- Jika berupa IP address, contohnya **127.0.0.1**



URL



The URL specifies the address (i.e., location) of the web page displayed in the browser window.

More URL Examples

1. <https://www.example.com/>
2. <https://www.example.com/index.html>
3. <https://www.example.com/index.php>
4. <https://example.com/>

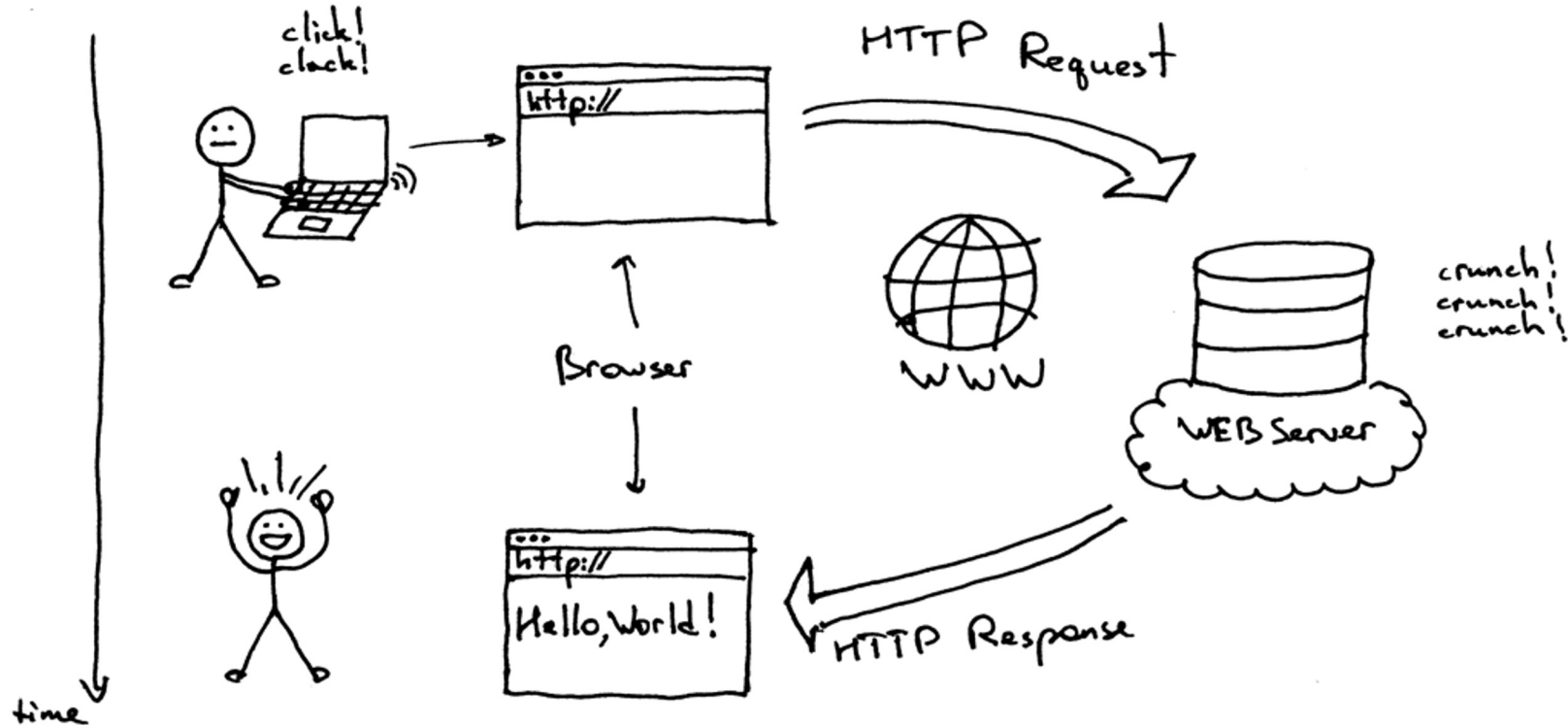
1. <https://example.com/username/>
2. <https://example.com/username/gallery/>
3. <https://username.example.com/>
4. <https://username.example.com/gallery/>

1. <https://en.example.com/>
2. <https://example.com/en/>

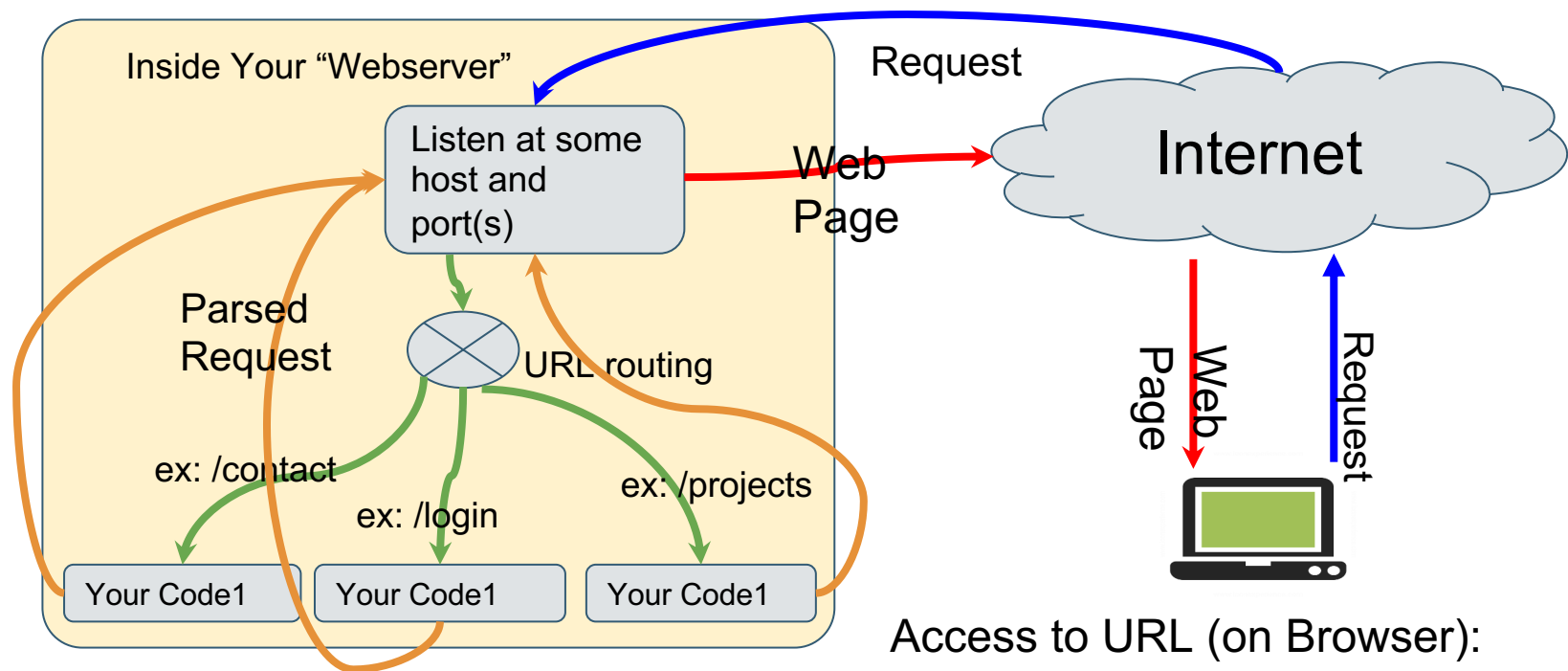
1. <https://example.com/#contact>

1. <https://www.youtube.com/watch?v=9thM5gLS2tg>
2. <https://youtu.be/9thM5gLS2tg>
3. <https://www.youtube.com/watch?v=9thM5gLS2tg&feature=youtu.be>
4. <https://www.youtube.com/playlist?list=PLBKadB95sF470tLyy4VNDuL7mzCAv8bwN>
5. <https://www.youtube.com/watch?v=9thM5gLS2tg&list=PLBKadB95sF470tLyy4VNDuL7mzCAv8bwN&index=1>

Web Request / Response



How Webserver Works



Access to URL (on Browser):
`http://[appname].herokuapp.com/`

Web Programming

Web Programming

The Internet and
web programming technologies

To design web pages and applications
that run across an enormous range of
Internet-enabled devices.

- **Client-side programming** technologies are used to build web pages and applications that are run on the client (i.e., in the browser on the user's device).
- **Server-side programming**—the applications that respond to requests from client-side web browsers, such as searching the Internet, checking your bank-account balance, ordering a book from Amazon, bidding on an eBay auction and ordering concert tickets.

Client vs Server Side Scripting

CLIENT SIDE SCRIPTING	SERVER SIDE SCRIPTING
<ul style="list-style-type: none">- Runs on the user's computer (Browser or scripting host)	<ul style="list-style-type: none">- Executed on the web server
<ul style="list-style-type: none">- Depends on browser → Browser must support the scripting language	<ul style="list-style-type: none">- Not depend on client: Wide Range Programmatic capabilities→ Programmers have more flexibility
<ul style="list-style-type: none">- User can view the script by using the browser's source viewing capability	<ul style="list-style-type: none">- User cannot view the source code because the response is an HTML Page

Server Side Scripting Language



Client Side Scripting Languages

HTML



CSS



JS



Review

A programming framework is

a **prepackaged set of solutions** that solves common development problems.

Web Framework

Web Framework

- A web framework is a set of libraries and useful tools that can be used to build dynamic web applications.
- A web application framework forms generic web-based software application that is extended and modified by developers to create a specific application.

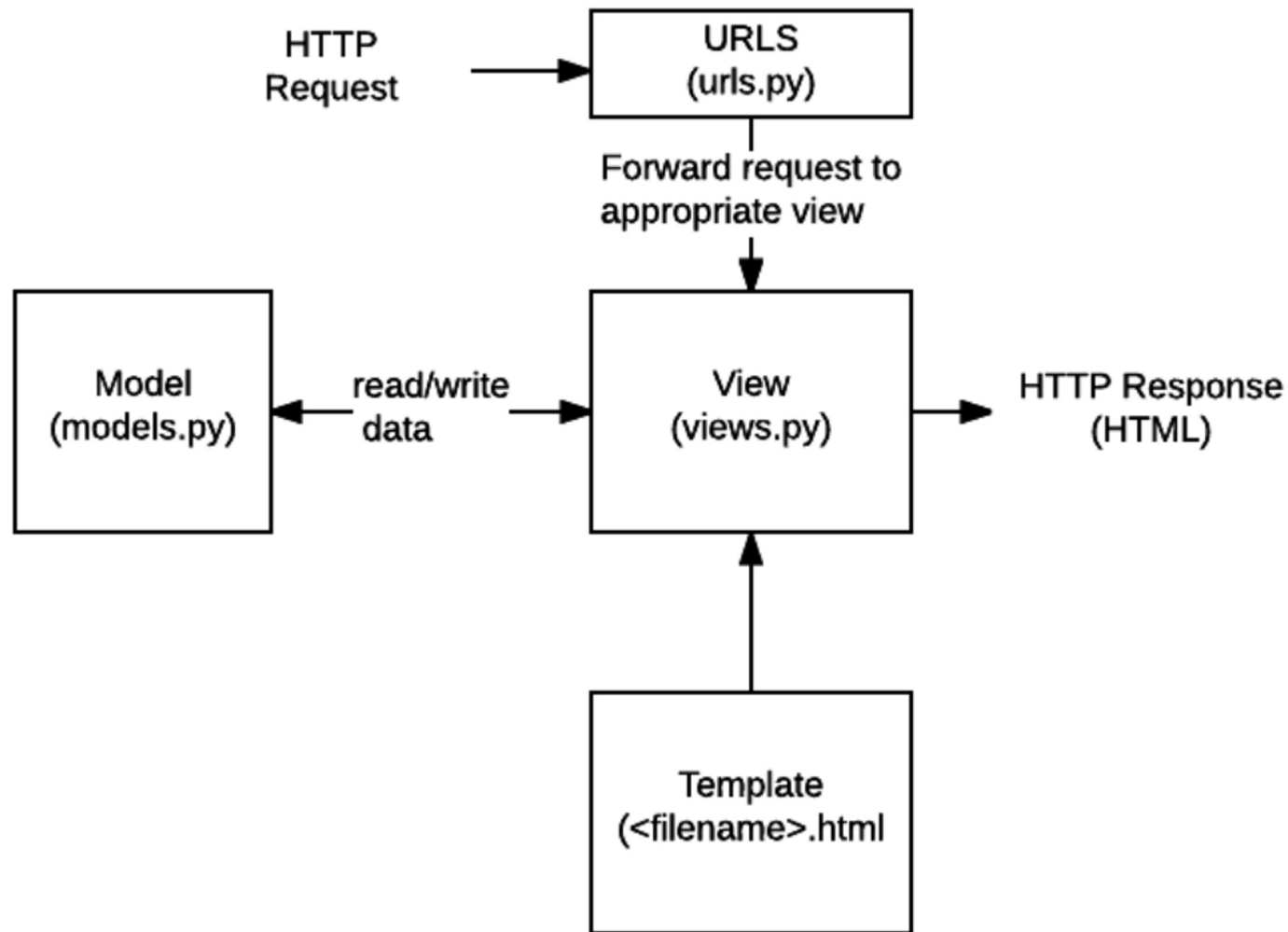
Why we use web frameworks

- Efficiency: provide basic building blocks
- Code reusing
- Separation of concerns
- Community support
- Structure matters

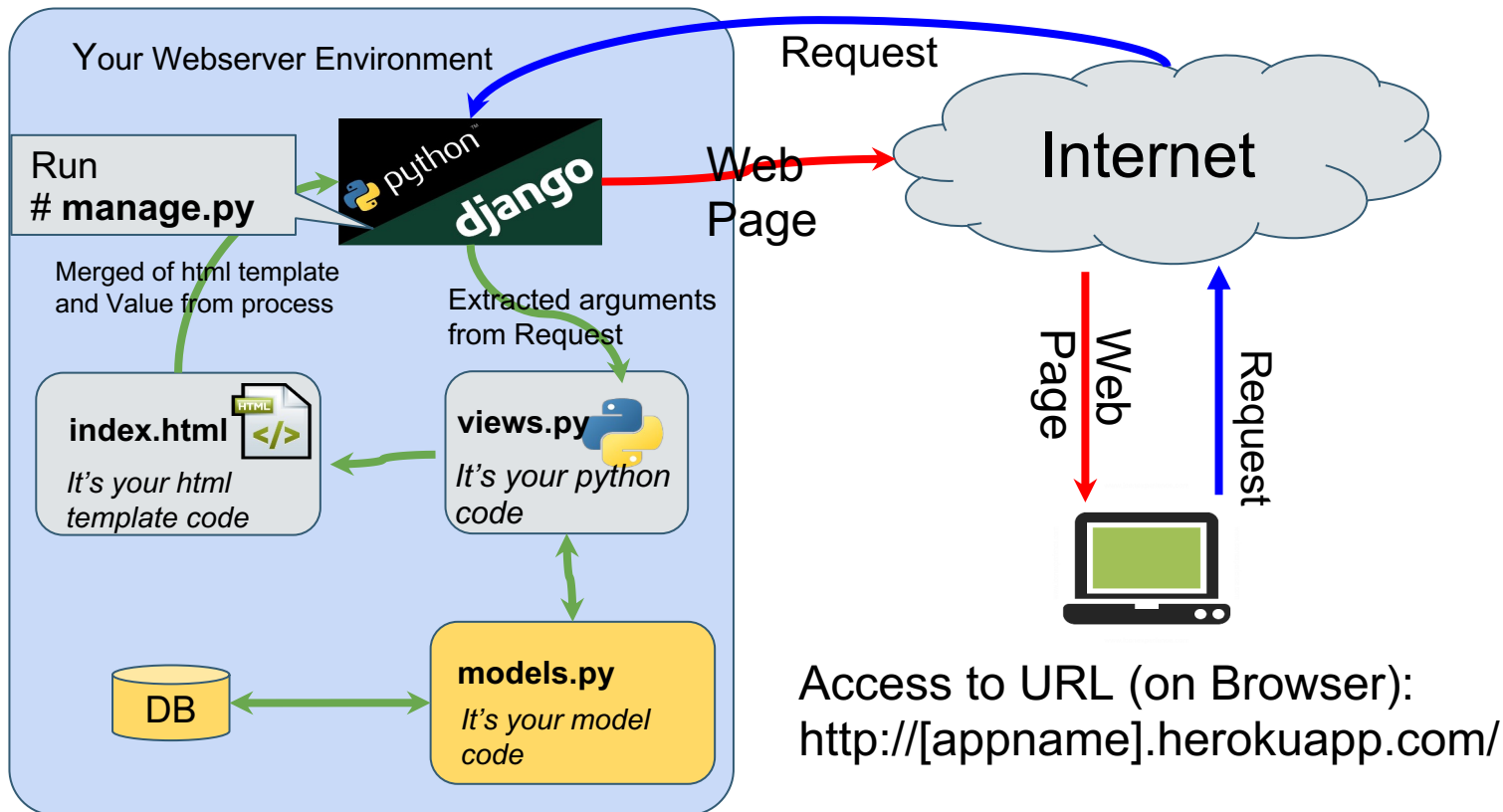
Get Stuff Done!

Django

- <https://www.djangoproject.com/>
- Language programming: Python
- Architectural pattern: Model–Template–Views (MTV)
- Why we use Django?
 - ❑ Open source
 - ❑ Ridiculously fast
 - ❑ Fully loaded
 - ❑ Reassuringly secure
 - ❑ Exceedingly scalable
 - ❑ Incredibly versatile



How Django Framework Works



Other Frameworks

Spring

- <https://spring.io/projects/spring-boot>
- Language programming: Java
- Architectural pattern: Model-View-Controller (MVC)

Laravel

- <https://laravel.com/>
- Language programming: PHP
- Architectural pattern: Model-View-Controller (MVC)

Yii

- <https://www.yiiframework.com/>
- Language programming: PHP
- Architectural pattern: Model-View-Controller (MVC)

Common Features of Web Framework

- url routing
- views
- database interaction
- form controls
- user management
- session management

A programming framework is a **prepackaged set of solutions** that solves common development problems.

//what else?

References

- Deitel: Internet & World Wide Web How to Program 4th Edition, Prentice Hall, 2008.
- Deitel: Internet & World Wide Web How to Program 5th Edition, Prentice Hall, 2011.
- Definition of Web, accessed on <https://www.w3.org/Help/#webinternet> (Aug 2021).
- Languages and Frameworks, accessed on <https://digital.com> (Aug 2021).