Introduction to MVC and Laravel

Lecture One
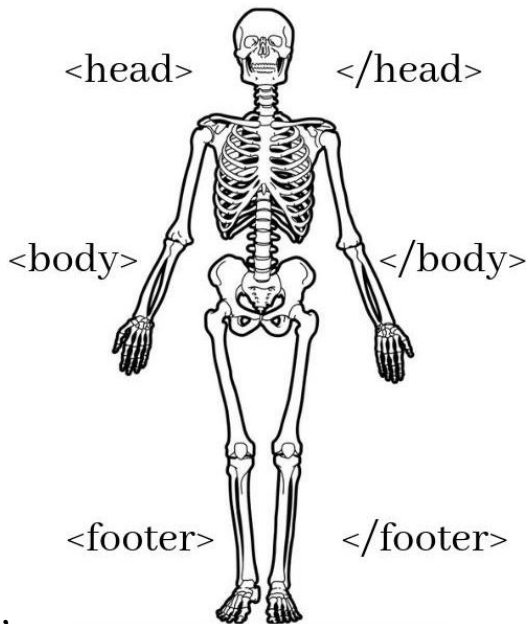
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What is
Web Development?

Overview

HTML

<head> </head>

<body> </body>

<footer> </footer>

Structural Layer

HTML + CSS

<head> </head>

<body> </body>

<footer> </footer>
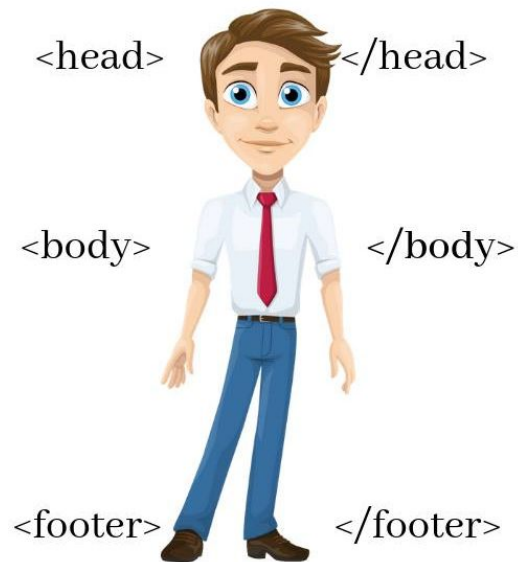
Presentational Layer

- HTML controls what goes on the page, the text, images, videos etc. In other words the content you view when you navigate to a webpage.

- CSS controls how the page looks, how big the title is, what colour the background is.

- JS powers the users' experience on the website, it allows you to comment on posts (like this one), play games and is unfortunately responsible for all those annoying popup ads!
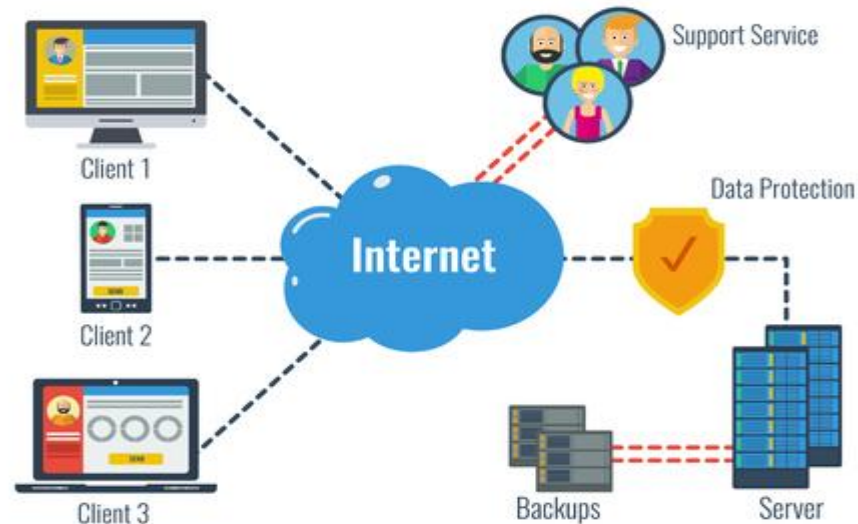
Overview

PHP is scripting language and an interpreter. Like other scripting languages, PHP enables web developers to define the behavior and logic they need in a web page. These scripts are embedded into the HTML documents that are served by the web server.

What is Serverless?

Why Laravel?

About This Course

"Just because it's there" might be a valid justification for climbing a mountain, but there are better reasons to choose to use a specific framework—or to use a framework at all.

It's worth asking the question, **why frameworks**? More specifically, **why Laravel**?

Security

Testing

Task Scheduling

Great Tutorials

Authentication and Authorization

Packaging System

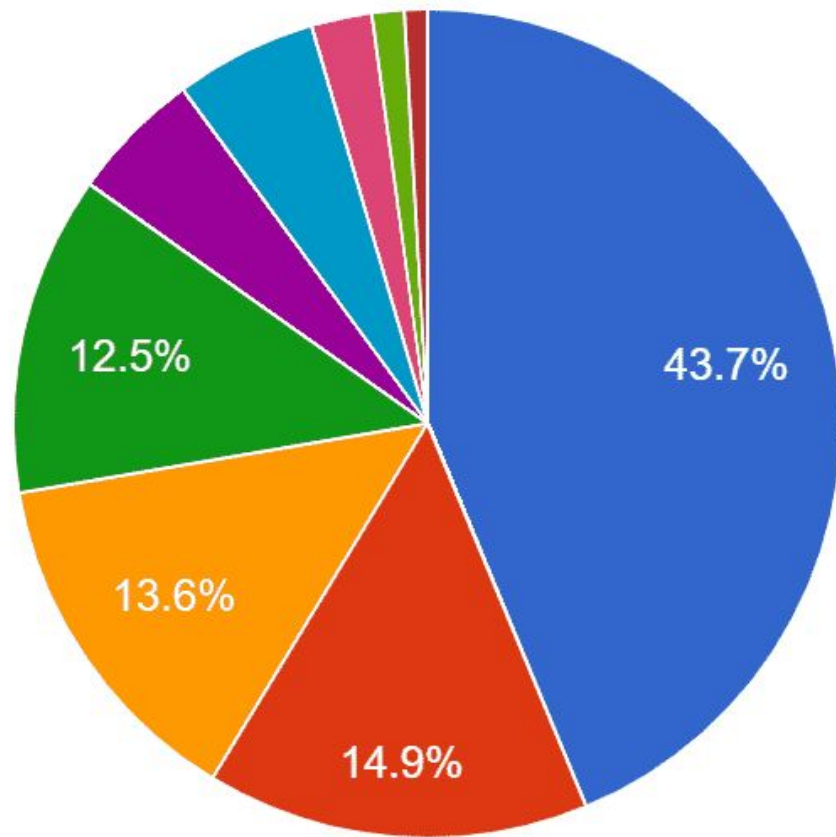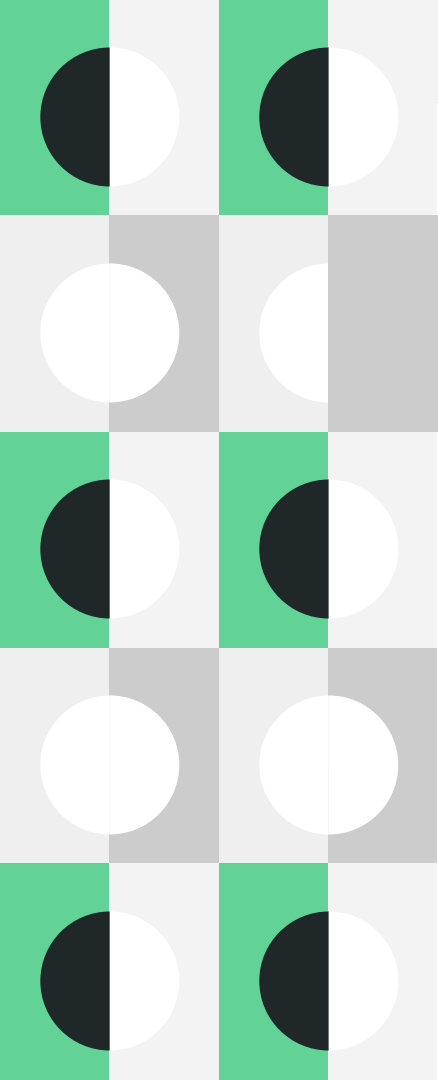Easy Installation

Multiple File System

Responsive Interface

MVC

Performance

Object Oriented Programming

Eloquent

Laravel — 43.7%
Code Igniter — 14.9%
Symfony — 13.6%
Zend — 12.5%
Yii 2
CakePHP
Fuel PHP
FatFree
Aura

But, how web frameworks are useful?

- Saves time
- Well organized app
- Flexibility and highly customizable
- Secure code
- Say no to re-inventing
- Scalable, fast and secure
- Reduce development time and cost
- Suitable for teamwork
- Well supported
- Re-use of code
- Easy deployment and maintenance
- ....

About This Course

- In the early days of the dynamic web, writing a web application looked a lot different than it does today.

- Developers then were responsible for writing the code for not just the unique business logic of our applications, but also each of the components that are so common across sites—**user authentication**, **input validation**, **database access**, **templating**, and more.

- Today, programmers have dozens of application development frameworks and thousands of components and libraries easily accessible.

About This Course

- Frameworks like **Laravel**—and **Symfony**, **Lumen**, and **Slim**—prepackage a collection of third-party components together with custom framework "glue" like configuration files, service providers, prescribed **directory structures**, and **application bootstraps**.

- So, the benefit of using a framework in general is that someone has made decisions not just about individual components for you, but also about how those components should fit together.

About This Course

Alongside exploring Laravel as a PHP framework, we will try to explore other Web Technologies and Tools either for Backend development or Frontend development, including:

- **Bootstrap** : a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components

- **Git** : a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency

About This Course

What will you learn in this course?

- How to build complete web applications using Laravel.

- How to **C**reate, **R**ead, **U**pdate and **D**elete data in database.

- How to use ready-build functions and plugins in your application.

- How to use software version control (Git) and work collaboratively on a project.

Break Time!

About This Course

In order to be able to learn and understand this course and pass it, you **must** know :

- ○ **Very good** programming skill.

- ○ Good knowledge in PHP.

- ○ Basics of Database.

- ○ General understanding of Object-Oriented Programming.

About This Course

What tools and softwares do we need?

- ○ Laragon : is a free and **open-source** local web server.

  Wamp server and Xampp are okay.

- ○ PHPStorm : powerful IDE provides an editor for PHP, HTML and

  JavaScript with on-the-fly code analysis, error prevention

  and automated refactorings for PHP.

  VsCode, Sublime, Atom and any other code editor is okay.

- ○ Git Client.

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About This Course

Delivery plan and syllabus.

About This Course
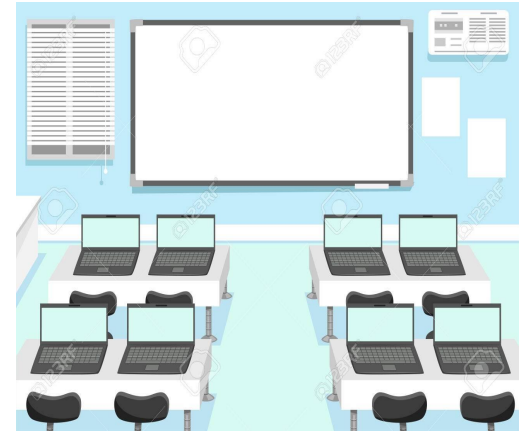
Class Structure

2 Hours Theoretical

On-campus

Research and Practice

At Home

2 Hours Practice in Lab

On-campus

Class Rules

- Attendance is according to the TIU rules. Please be on time (and watch videos)!

- Ask questions, you're responsible for everything taught in the Class/Videos and Labs.

- Exams cover everything that has been discussed and taught. No omissions at all.

- No postponements of due dates for quizzes, assignments and projects. Do not think about it, and do not ask for it, please.

- Office times are for you; use it efficiently. It is possible to come to my office in other times, but do not be disappointed if I am busy and couldn't respond to you.

- Find a mistake in my Lecture notes, Codes, and Offline videos, you will get a coffee.
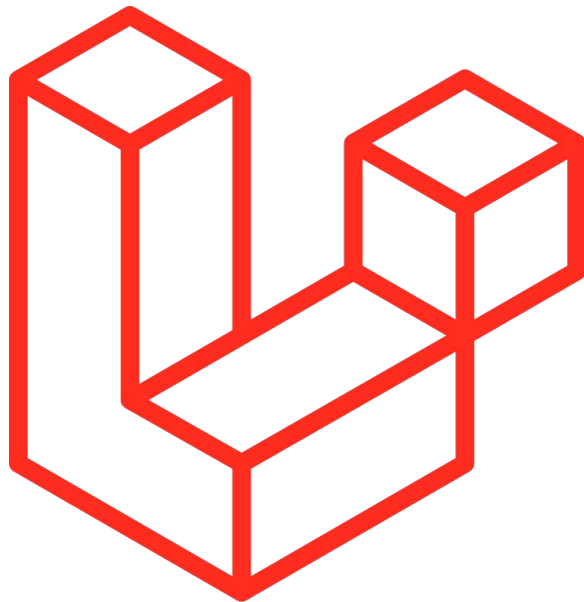
Evaluation Quiz

- Topics : basics of PHP.

- Date : Next Week.

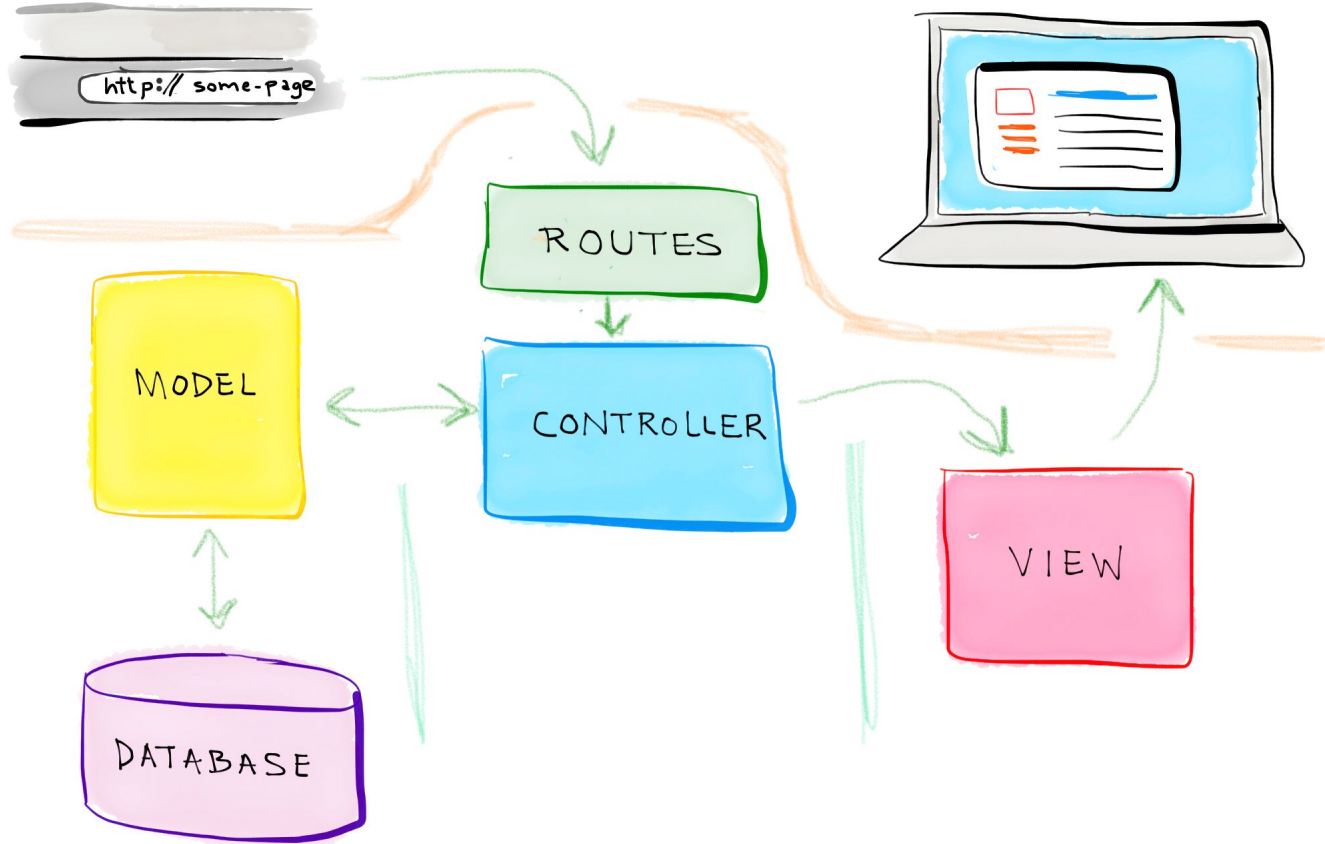- Materials: Web Programming lecture notes
  W3School PHP
  Course Books.

Introduction to Laravel

Laravel is an **open-source** PHP framework, which is robust and easy to understand. It follows a **model-view-controller** design pattern.

Laravel reuses the existing components of different frameworks which helps in creating a web application. The web application thus designed is more structured and pragmatic
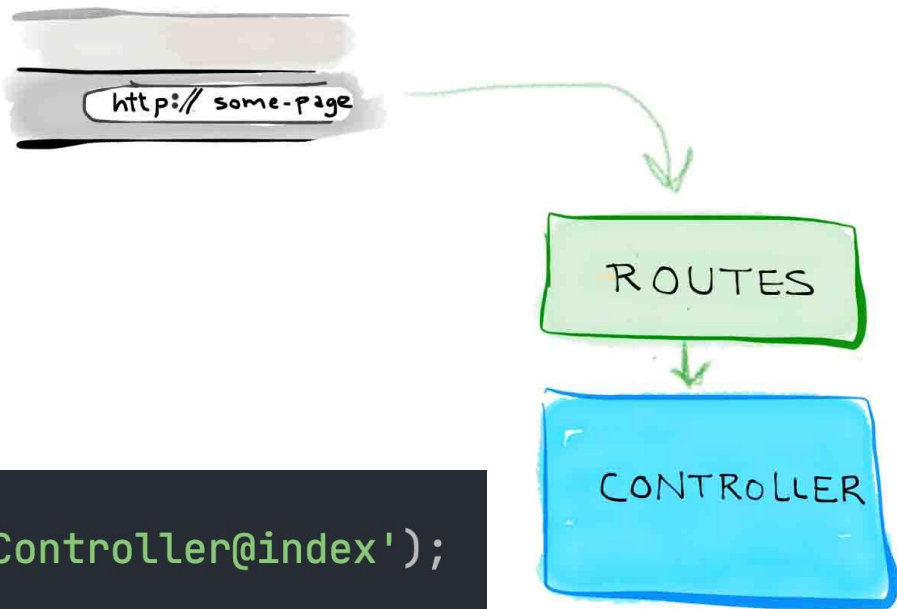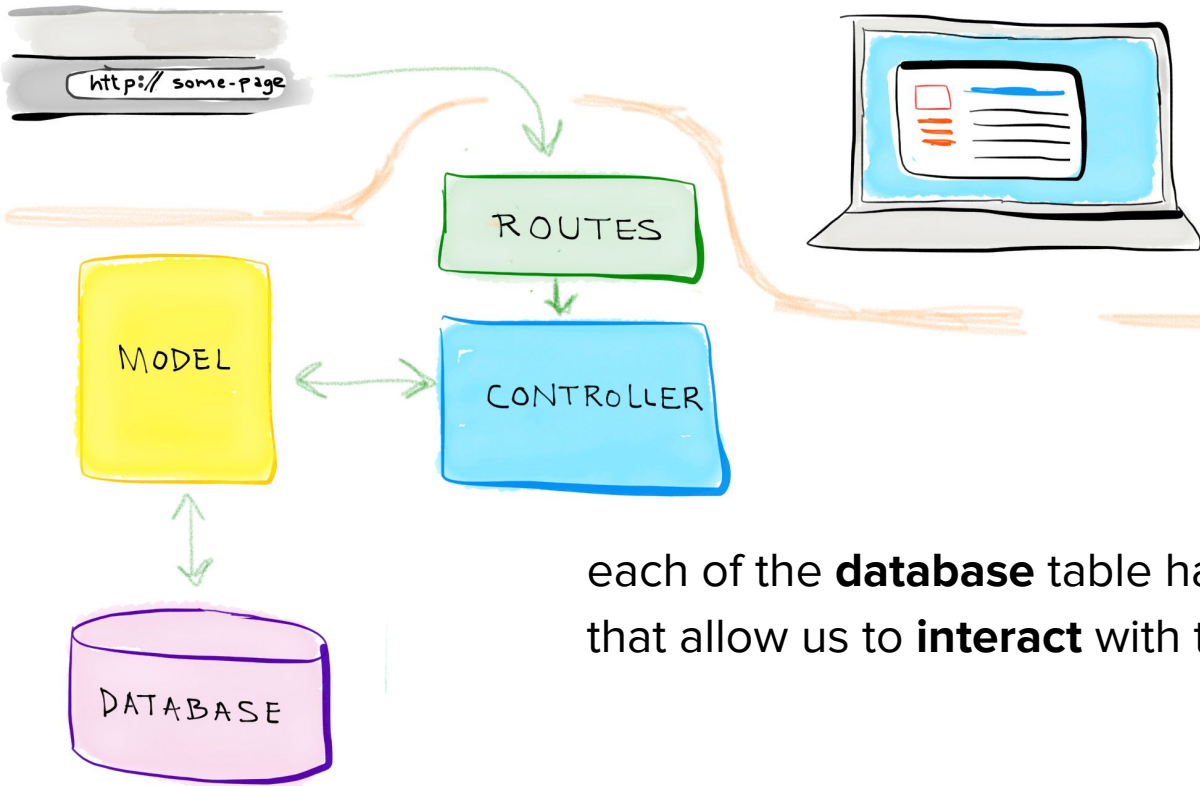
Introduction to Laravel

Introduction to Laravel

Routing : all requests are mapped with the help of routes. Basic routing routes the request to the associated controllers


```
Route::get( uri: '/home', action: 'HomeController@index');
```
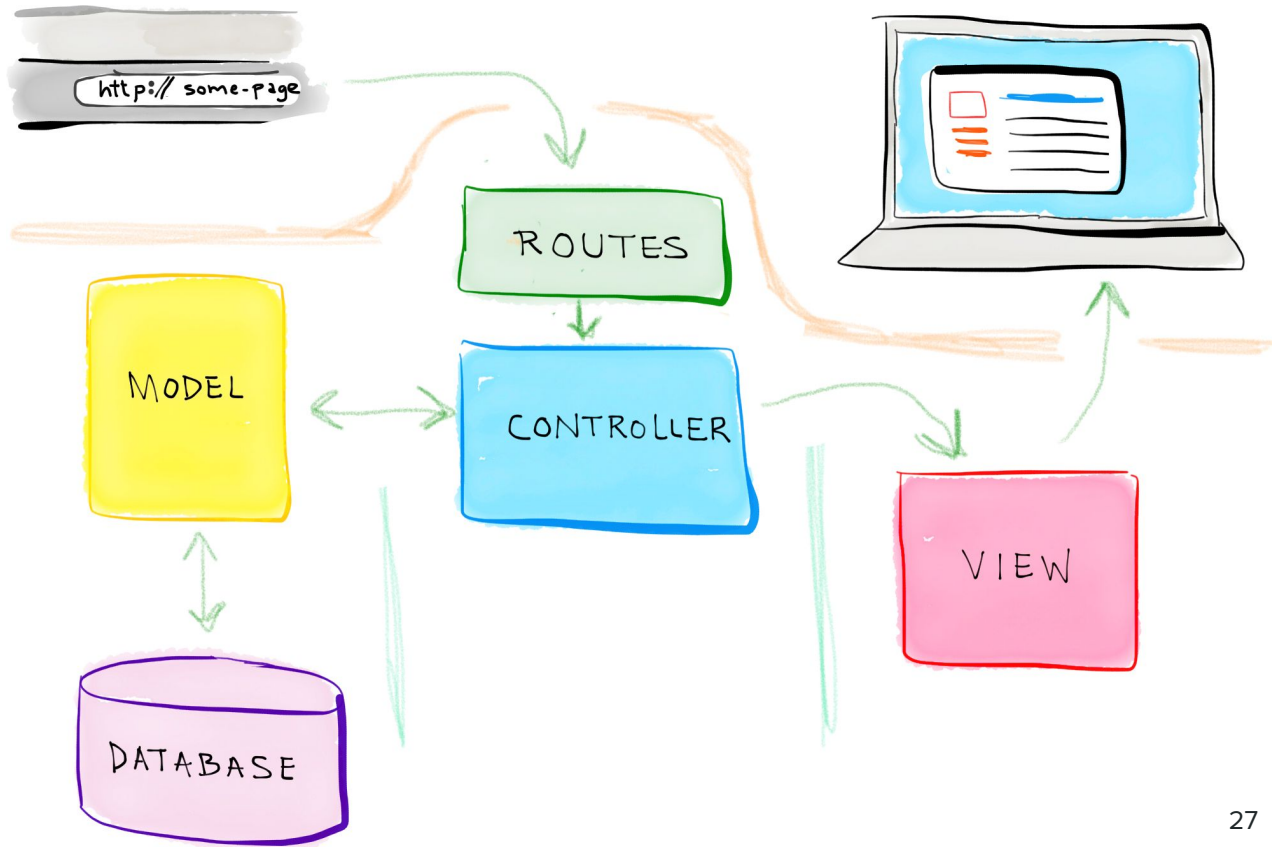
Introduction to Laravel

Controller acts as a directing traffic between **Views** and **Models**

Model is a **class** that represents the logical structure and relationship of underlying data table

each of the **database** table has a corresponding "**Model**" that allow us to **interact** with that table

http:// some-page

ROUTES

MODEL

CONTROLLER

DATABASE

Introduction to Laravel

Views contain the **HTML** served by your application, and serve as a convenient method of separating your controller and **domain logic** from your **presentation logic.**

ntgn3j

Web Technologies - IT 350 (2021 - 2022) Edmodo Group

Activities and Next Week Topics

This Week:

1. Join Edmodo Group

2. Install PHP Server(Laragon)

3. PhpStorm on your laptops.

4. Try to install Laravel (will get a **Plus**)

5. Study for the quiz.

Next Week:

● Laravel Directory Structure (Root and App Directory).

References / Further Readings

- Laravel.com : Laravel's official Documentation.

- Matt Stauffer, 2019. Laravel: Up & Running: A Framework for Building Modern PHP Apps. O'Reilly Media.

- Dayle Rees, 2016. Laravel: Code Smart.