



Laravel



Faculty of Applied Science
Information Technology
2023-24 Fall Semester

Web Technologies
01 - Introduction to Laravel and MVC

Contents

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3 years as Research Assistant
3 year as a Developer
3 year as a Lecturer



BSc. Computer Engineering @ TIU
MSc. Software Engineering @ UKH

7 years professional
experience as a PHP and
Laravel Web Developer



1st,2nd 3rd Hashcode
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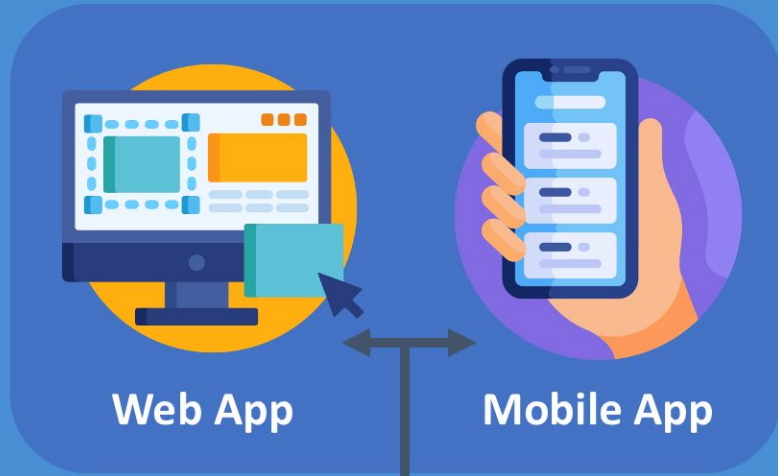


Coffee, Reading, Learning,
Traveling and Technology.

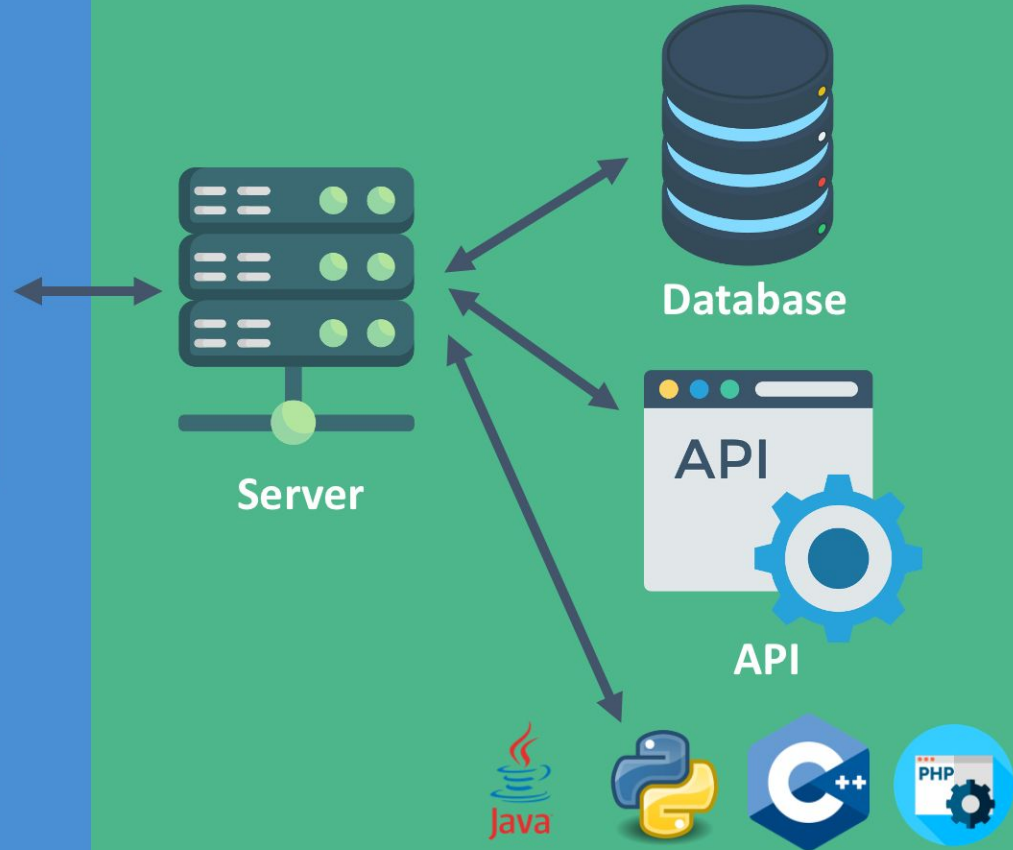


What is Web Development?

FRONT-END



BACK-END



Server



Database



API



Java



PHP

Why Web Development is important?

About This Course

Web Development is important for a number of reasons:

- It allows you to establish a presence on the internet.
- It helps you to reach a global audience.
- It can help you to increase sales and leads.
- It can help you to improve customer service.
- It can help you to save money on marketing costs.

In addition to these general benefits, web development can also be important for specific industries and purposes.

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**

**Great
Tutorials**

**Authentication and
Authorization**

**Packaging
System**

Scheduling

Easy Installation

Multiple File

**Responsive
Interface**

MVC

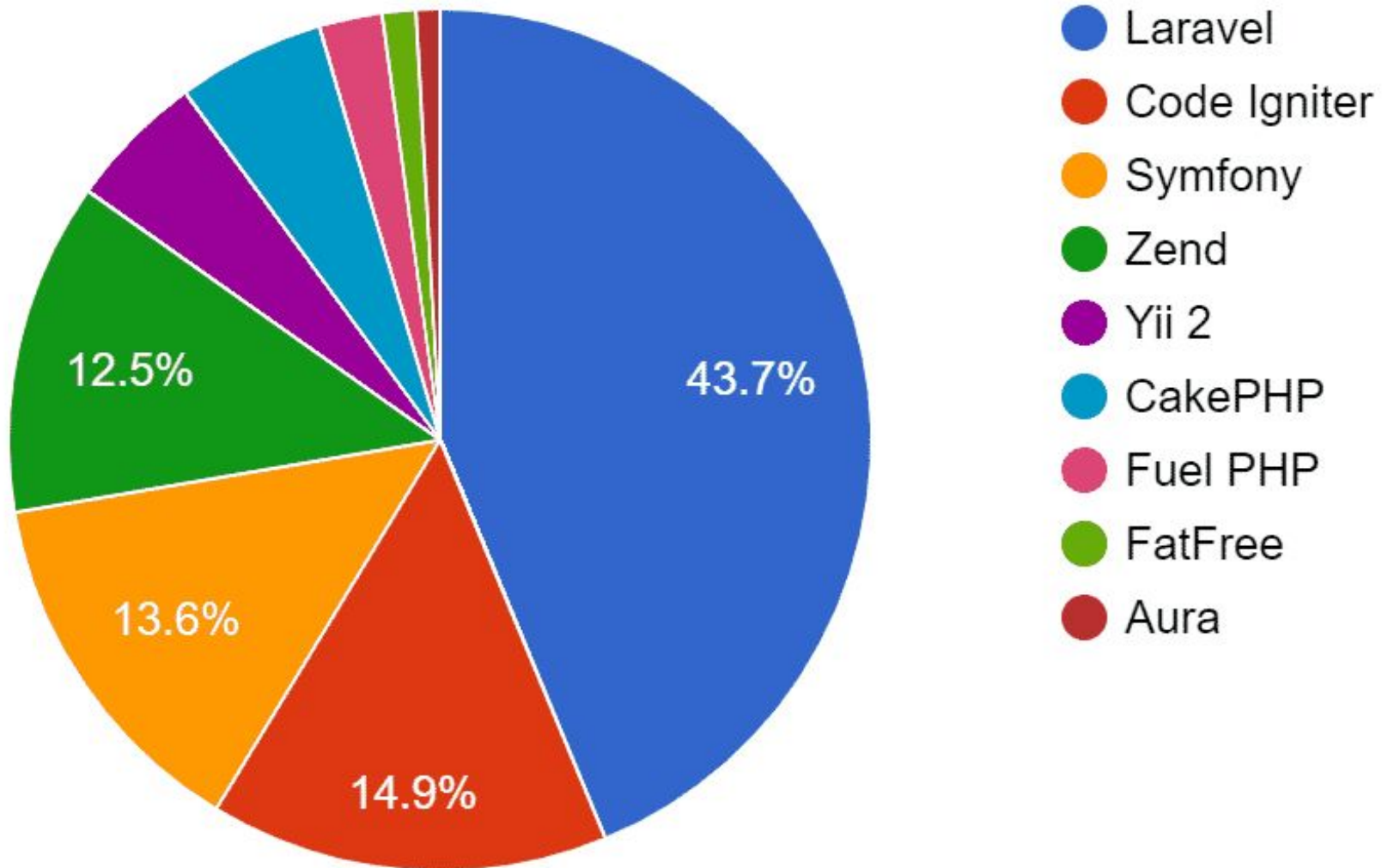
Performance

Object

System

Eloquent

Oriented Programming



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:

- **Tailwind** : an open source CSS framework. The main feature of this library is that, unlike other CSS frameworks like Bootstrap, it does not provide a series of predefined classes for elements such as buttons or tables. Instead, it creates a list of "utility" CSS classes that can be used to style each element by mixing and matching
- **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?

- Develop a web application using Laravel.
- Build a web application that connects to a relational database.
- Implement authentication and authorization mechanisms to protect a web application from unauthorized access.
- Debug and troubleshoot web applications.
- Deploy and maintain web applications.

About This Course

Prerequisites for this course:

- **Very good** programming skill.
- Good knowledge in PHP.
- Basics of Database.
- General understanding of Object-Oriented Programming.

About This Course

What does this mean?

- You should be able to write and debug code in a programming language of your choice.
- You should be familiar with the PHP programming language and its syntax.
- You should understand the basic concepts of databases, such as tables, columns, and queries.
- You should have a general understanding of the principles of OOP, such as classes, objects, and inheritance.

If you are missing any of these prerequisites, I recommend that you brush up on them before starting this course. There are many resources available online and in libraries to help you learn programming and PHP. You can also find online courses and tutorials on databases and OOP.

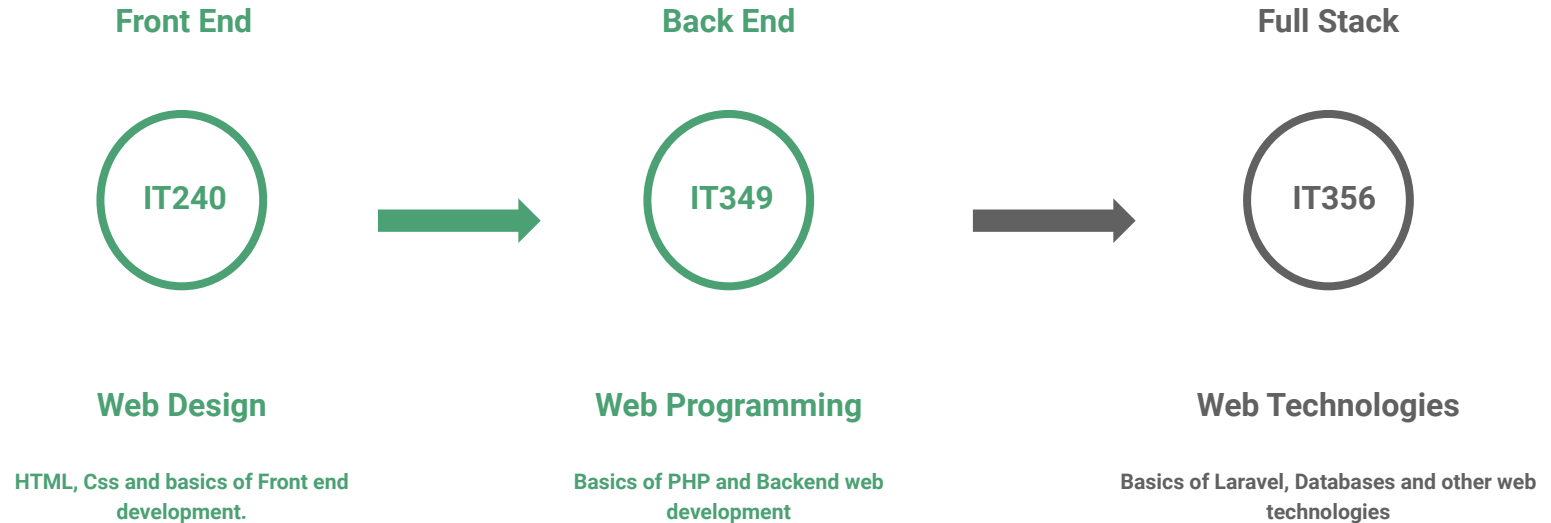
About This Course

What tools and softwares do we need?

- **Laragon (V 6.0)** : 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-Fork: an easy to use and powerful git client.



About This Course

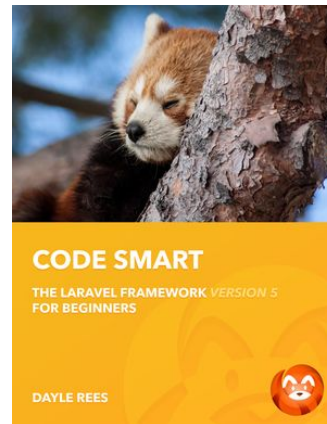
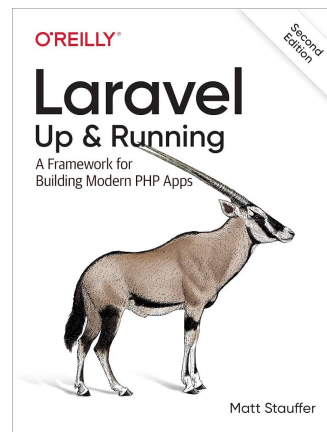


Syllabus

About This Course

Main Textbook sources for this course

- Laravel: Up & Running: A Framework for Building Modern PHP Apps. by Matt Stauffer, 2019. O'Reilly Media.
- Laravel: Code Smart, by Dayle Rees, 2016.



About This Course

Extra courses and tutorials for laravel:

- Learn Laravel Path, by Laracasts.
<https://laracasts.com/path>
- Laravel 8 From Scratch. By Jeffrey Way, Laracasts
laravelfromscratch.com



Grading (Summer 2023)

Assessment Type	Quantity	Total Mark
Homeworks	6	15%
Lab Assignments	10	15%
Quiz	4	10%
Midterm (Theoretical and Practical)	1	20%
Final (Theoretical and Practical)	1	40%

Grading

Assessment Type	Quantity	Total Mark
Lab Assignments	10	15%
Quiz	6	10%
Course Work	1	15%
Midterm (Theoretical and Practical)	1	20%
Final (Theoretical and Practical)	1	40%

Grading

Unlock the full potential of your grades by participating in the following activities. Not only will you gain valuable skills, but you'll also have the opportunity to earn extra marks and set yourself apart from your peers.

- ❖ Preparing and sharing **Course, Wikipedia Articles, or Blog Posts** on web technologies in your own language (**Kurdish, Arabic, Turkmen, or Syriac**).
- ❖ **Volunteering** in Departmental and University wide activities, for example Spring Festival, National Innovation Competition in Engineering, Conferences, Dean of Student Activities... etc.

About This Course(Summer 2022)

Class Structure



2 Hours Theoretical

On-campus



Research and Practice

At Home



2 Hours Practice in Lab

On-campus

Class Rules

- Please adhere to TIU and departmental attendance policies and arrive on time.
- During lectures and labs, kindly maintain a quiet and focused atmosphere for optimal learning.
- Take an active role in your education by asking questions and taking thorough notes.
- Exams will cover all class and lab material, so it is important to stay current with all discussions.
- Due dates for quizzes, assignments, and projects will not be postponed.
- Office hours are a valuable resource for you to utilize. While appointments outside of office hours can be made, I may not always be available.
- If you find any errors in my lecture notes or codes, please bring it to my attention for a positive reward.



Evaluation Quiz

- Topics : Basics of PHP.
- Date : Next Week.
- Materials:
 - Web Programming lecture notes.
 - W3School PHP.
 - Course Books for web programming.

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Web Technologies - IT 356 (2023 - 2024)
Microsoft Teams



Activities and Next Week Topics

This Week:

- Join the Google Classroom group
- Install Or Upgrade your Laragon.
- Install PhpStorm on your laptops.
- Try to install Laravel (will get a **Plus**)
- Study for the quiz.

Next Week:

- Laravel Directory Structure (Root and App Directory).

References / Further Readings

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- [Laravel.com](https://laravel.com/docs) : 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*.