#### DEPARTMENT OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

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# PHP WEB APPLICATION FRAMEWORK: CODEIGNITER 4 (INTERMEDIATE)



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# **Programming Today**



In May 2023 over 90,000 developers responded to our annual survey about how they learn and level up, which tools they're using, and which ones they want.

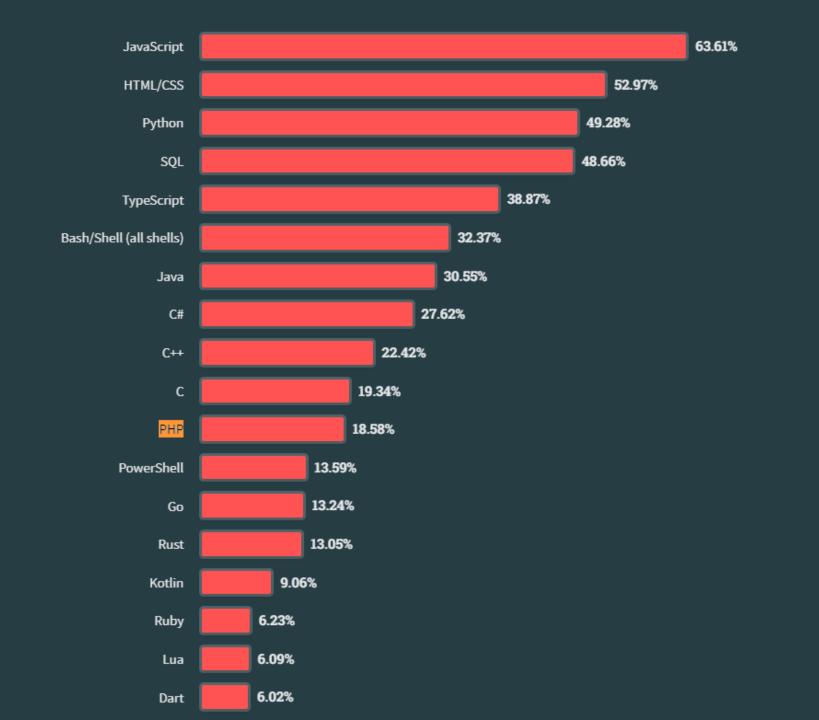


#### Programming, scripting, and markup languages

2023 continues JavaScript's streak as its eleventh year in a row as the most commonlyused programming language. Python has overtaken SQL as the third most commonlyused language, but placing first for those who are not professional developers or learning to code (Other Coders).

A few technologies moved up a spot this year (Bash/Shell, C, Ruby, Perl, and Erlang) with two moving up two spots (Elixir and Lisp). The big mover, gaining seven spots since 2022 was Lua, an embeddable scripting language.





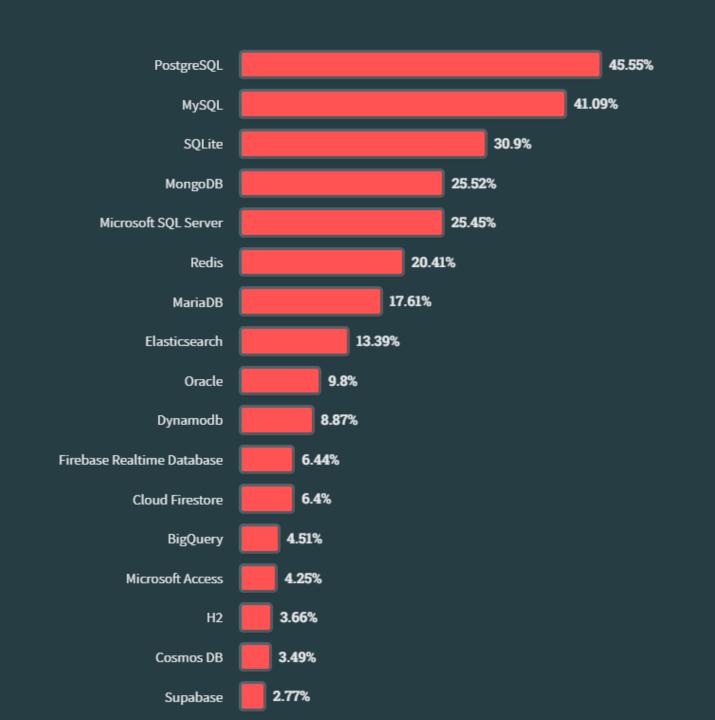
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#### **Databases**

This year, PostgreSQL took over the first place spot from MySQL. Professional Developers are more likely than those learning to code to use PostgreSQL (50%) and those learning are more likely to use MySQL (54%).

MongoDB is used by a similar percentage of both Professional Developers and those learning to code and it's the second most popular database for those learning to code (behind MySQL).



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### Web frameworks and technologies

Node.js and React.js are the two most common web technologies used by all respondents.

Professional Developers use both fairly equally and those learning to code use Node.js more than React (52% vs. 48%). jQuery and Express are the next two popular web technologies for all respondents, and jQuery is used more by Professional Developers than those learning to code (24% vs 18%), whereas Express is used more by those learning than professionals (25% vs. 20%).





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## Web Frameworks

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# Top 5 Categories of Web Frameworks

# Front-End (JavaScript) Frameworks



**React**: A JavaScript library for building user interfaces, commonly used for single-page applications.



**Angular**: A comprehensive front-end framework by Google for building dynamic web applications.



**Vue.js**: A progressive JavaScript framework for building user interfaces, known for its simplicity and flexibility.

#### Back-End Web Frameworks



**Express.js (Node.js):** A minimal and flexible Node.js web application framework for building server-side applications and APIs.



**Laravel:** is a PHP framework that is known for its elegant syntax and robust features. It is a good choice for developers who want to build powerful and scalable web applications. Laravel is also known for its large and active community, which provides support and resources to users.



**Django (Python):** A high-level Python web framework that encourages rapid development and clean, pragmatic design.



#### **Full-Stack Web Frameworks**



**Meteor:** A full-stack platform for building web and mobile apps in pure JavaScript.



**Laravel (PHP):** A PHP web application framework with an elegant syntax for building modern, robust web applications.



**Spring Boot (Java):** A Java-based framework for building production-grade, stand-alone, and web applications.

#### **API and Microservices Frameworks**



**Express.js (Node.js):** Besides web applications, it's widely used for building RESTful APIs and microservices.



**Flask (Python):** A lightweight Python web framework known for its simplicity and great for building APIs.



**Lumen:** is a micro-framework built on top of Laravel. It is designed to be lightweight and fast, making it ideal for building microservices and APIs.

#### Real-Time and Socket.IO Frameworks



**Socket.IO:** A real-time, bidirectional, and event-based communication library for building interactive web applications.



**Feathers:** A web framework for building real-time applications and REST APIs using JavaScript or TypeScript.



**NestJS:** A Node.js framework for building scalable and efficient serverside applications, including real-time features.

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# Codelgniter <sup>4</sup>

#### The small framework with powerful features

Codelgniter is a powerful PHP framework with a very small footprint, built for developers who need a simple and elegant toolkit to create full-featured web applications.

Learn more



### Back-End & Full-Stack

 CodeIgniter is a web application framework for building web applications and websites. It's primarily a PHP framework, which means it's designed to work with the PHP programming language. Codelgniter follows the Model-View-Controller (MVC) architectural pattern and provides a set of libraries and helpers to simplify common web development tasks. It's known for its simplicity and small footprint, making it a popular choice for developers who want a lightweight and flexible framework for PHP web development.



# Module 1: Intro to Codelgniter

- Model View Controller (MVC)
- Local Environment Setup (Composer)
- Folder Structure
- Controllers
- Routes
- CodeIgniter Libraries and Helpers

#### Module 2: Database Interaction

- Database configuration.
- Working with multiple databases.
- Query Builder class for advanced database operations.
- Models
- Database migrations and seeding.

#### Module 3: Authentication and Authorization

- User authentication (login and registration).
- Role-based access control.

## Module 4: RESTful APIs

- Building RESTful APIs using CodeIgniter.
- Authentication and security for APIs.

#### Module 5: Advanced Views

- Working with layouts and templates.
- Using partial views and view data.
- Implementing advanced frontend technologies (JavaScript frameworks like Vue.js or React).

# Module 6: Deployment and Scaling

- Deployment strategies.
- Server setup and configuration.



# Module 7: Project Presentation and Discussion

- Participants present their projects.
- Sharing insights and lessons learned.