

SOFTWARE DEVELOPMENT FOR THE INTERNET



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SOFTWARE DEVELOPMENT FOR THE INTERNET: INTRODUCTION

Welcome to the 'Software Development for the Internet' Course from fathat.org. This course aims to equip you with the knowledge required to understand the basics of computers, computer science, networking, the internet, from both the structural and technical perspectives as well as a thorough introduction to programming languages, including in-depth tutorials on the Javascript and Python programming languages.

You'll learn everything you need from: HTML and CSS, What an API (Applications Programming Interface) is. The difference between client-side and server-side development and the relationship between them; the requests and responses that enable them to communicate and the technical protocols (http, tcp/ip...) that define the rules for that communication.

You'll be introduced to the processes and tools required to design and develop software, as well as the concepts of modern everyday software development that organisations use on a daily basis.

You'll put together both backend (server-side) and frontend (client-side) applications using learning repositories specifically designed to build both applications from the bottom up.

You will learn how to develop authentication to protected services on an API using JWT (Json Web Tokens) and how to authorise access to these services.

You'll also learn how to use MySQL to store and retrieve data and how to use a simple NoSQL database.



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By the end of this course not only will you have hands on experience of software development, you will have a more than adequate understanding of what is required to develop software for the internet - client and server side applications and will hopefully have enough confidence and knowledge to take you forward to start a career in software development.

This course is designed for beginners with little or no knowledge of software development, but has elements for those that have some programming experience already but would like to learn other aspects, such as API development, specifically using openAPI with Python and Flask, or to learn how to call APIs from Javascript using authentication.



SOFTWARE DEVELOPMENT FOR THE INTERNET: COURSE OUTLINE

The course outline defines the subjects and the order of study. It's important that you stick with the order shown.

1. Basic Components of a Computer
2. Basic Computer Science
3. Operating Systems and File Systems
4. The Internet Explained
5. Common Communication Protocols and Networks
6. Developing for the Internet
7. Software Development Process and Tools
8. Programming Languages
9. An Introduction to HTML and CSS
10. The Javascript programming language
11. The Python programming language
12. Building a Backend API (Python, openAPI, Flask, Connexion)
13. Building a Frontend Application (HTML/CSS, Javascript, including communicating with an API)

