

Development



Back-End Developer: .NET

Build robust, secure web applications in the C# programming language with Microsoft's .NET software framework.



Path duration:
800 hours



Job guarantee**



Personal mentor



Average duration
of full-time study:
12 months



Bachelor's-level
diploma*

*Web developer (Développeur(euse) d'application) - NSF 326t - Level 6 (Eu) 6 (UK) Bachelor's-level diploma (Fr) - filed in the RNCP by ministerial order 9/26/16 officially published on 10/4/16

** Conditions available at <https://openclassrooms.com/en/job-guarantee>

OPENCLASSROOMS

One million computer programming jobs are estimated to be created in the U.S. by 2020 - as well as 700,000 in Europe - thanks to unprecedented growth in the tech sector.

Here at OpenClassrooms, we pinpoint the key skills needed for the most in-demand jobs and develop courses and diplomas to train our students in those areas. That's why we've developed a one-year bachelor-level diploma in web development, which you can complete entirely online with the help of a dedicated mentor.

What will I do as a .NET developer?

A .NET ("dot-net") developer is a **back-end developer** who is specialized in using Microsoft's software framework, .NET, to build web applications with the **C#** ("c-sharp") programming language. A .NET developer may be in charge of:

- developing and improving an application software
- designing technical architecture
- implementing software tests and debugging code
- producing the design schema of a database
- writing technical and functional documentation
- analyzing customer needs
- selecting and advocating for suitable technical solutions
- keeping up with changes in technologies

Wondering if .NET is the right path for you? See what one of our .NET experts has to say:

- [Op-ed: The Case for Alternative IT Education](#)
- [What is .NET?](#)
- [Why Pursue .NET?](#)

How much will I earn?

Back-end web development can be a lucrative career with many prospects opening up as you continue to rack up valuable experience. Here is what you might expect to earn in your career as a .NET developer:

United States

Beginner: \$45,000 - \$75,000

2-5 years: \$55,000 - \$85,000

5+ years: \$70,000 - \$95,000 +

United Kingdom

Beginner: £20,000 - £40,000

2-5 years: £30,000 - £50,000

5+ years: £40,000 - £60,000 +

Salaries will vary depending on your location or the location of your employer.

What are my job prospects?

This path can prepare you for the following jobs:

- .NET developer
- C# developer
- Back-end developer

Developers are also called programmers, coders, or software engineers.

After a few years of experience, a developer can advance to a position of lead developer, software designer / architect, or technical director / tech lead.

Who is eligible to enroll?

This training program seems technical but **it's accessible to all, with no academic background required**. Here are the only prerequisites:

- A good level of English (for non-native speakers, a CEFR level of B2, an IELTS band score of 6.5, or a TOEFL score of 80 is recommended).
- Access to a computer (PC or Mac), headphones, a webcam, and a good internet access (3.2 Mbps upload and 1.8 Mbps for download). You can use an Internet speed test to find out like [High Speed Internet](#).

What will I learn to do?

- Jump-start your studies by defining a personal learning strategy
- Program with the C# programming language
- Use programming tools like Visual Studio, Git, and ASP.NET Core

- Visualize the design of a system with UML (Unified Modeling Language)
- Develop user interfaces using the MVC pattern
- Ensure the security of a web application
- Perform a needs analysis and propose a technical solution
- Develop an application according to customer needs
- Manage application test plans
- Provide technical support with documentation
- Stay up to date for a set of technologies
- Practice Agile web development
- ...and more!

How will I learn at OpenClassrooms?

Our learning method is unique and revolves around two elements: professional projects and dedicated mentoring sessions.

Projects

At OpenClassrooms, learning is [project-driven](#) because that's the fastest way to become proficient. Projects offer hands-on experience so you can hit the ground running when you start your new job.

Want to see an example of a project? Read our blog post [here](#).

Mentorship

During your path, you will be assigned a mentor who will offer one-to-one support via weekly video conference sessions. This mentor will offer guidance on your projects, help define objectives and guide you until you reach them. Our mentors are dedicated professionals who are experts in their field and have experience in sharing their know-how with our students.

Any questions? Contact our student advisors at +44 20 3868 9900 or +1 (929) 376 0101, or [request more information here](#). Opening hours: Monday to Friday 8.30am- 6.00pm UK time, until 1 pm Eastern Time.

Project 1 - 45 hours

Spend a day in the life of a back-end developer

What will your job look like? Get a peek at what it's actually like to work as a back-end developer! You'll analyze the job and define a learning strategy for working towards becoming an autonomous professional.

Skills

- Create a plan for completing your learning path
- Describe the role of a back-end developer
- Integrate content according to a mockup

Associated courses



Understanding the Web

 Easy  4 hours

Does the web interest you, but you aren't totally clear on how the whole thing works behind the scenes? Learn internet history, vocabulary, logistics, and more with this course!



Learn How to Learn


 Easy  6 hours

The ability to learn quickly and effectively is a key skill that can open the door to any domain or career throughout your life. Follow this course to improve your learning capacity and to take control of your personal and professional development!



Build Your First Web Pages With HTML and CSS

 Easy


 10 hours

Learn to create your first web pages using HTML and CSS, the two most important languages on the web. No coding experience required!



Create Web Page Layouts With CSS

 Easy

 10 hours

Go beyond basic HTML and CSS skills and learn how to create great layouts using CSS layout techniques!

Project 2 - 55 hours

Come to the rescue of a .NET application

You're the last line of defense and you've been brought in to finish up what another developer has started. Ready to go on the hunt for some bugs and get the green light on those tests? Let's dive in!

Skills

- Produce an xUnit test execution report
- Fix an application according to a test execution report

Associated courses



Learn the Command Line in Terminal

 Easy  4 hours

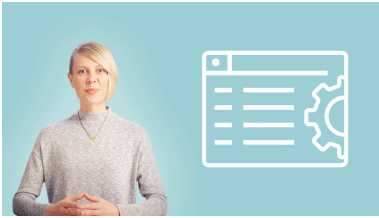
The command line in Terminal is where a lot of programming efficiency happens. Take this course to better communicate with your computer!



Manage Your Code Project With Git & Github

 Easy  20 hours

Using Git and Github is key for programmers, especially when working on a team! Manage your source code and track changes to your files with version control. Fix mistakes with Git commands!



Think like a computer: the logic of programming

Easy

4 hours

Have you been thinking about a career in software development? Do you find computers and computer lingo a bit foreign? This course demystifies jargon and puts computer programming within reach!



Learn Programming With C#

Easy

20 hours

Start programming by learning one of the most popular programming languages. C# will allow you to build a variety of secure and robust applications that run on Microsoft's .NET Framework.



Set Up Your .NET Coding Environment With Visual Studio

Easy

4 hours

Turn your computer into a programming powerhouse! Use Visual Studio, an Integrated Development Environment, or IDE, to set up your first .NET projects and start coding in C#.

Project 3 - 60 hours

Test the implementation of a new .NET functionality

If you want to implement a new functionality in your application, you've got to write your tests along with your code. Your job is to get it right, so you can release your app on a Friday and still have a nice weekend.

Skills

- Implement unit tests for a new functionality in a C# application
- Implement integration tests for a new functionality in a C# application

Associated courses



Test Your .NET Applications

 Easy  10 hours

Testing is essential for creating high quality apps that users love. Learn best practices with test-driven development and behavior-driven development. Make your C# applications robust with unit testing, mock testing, and integration testing.



Debug Your .NET Application With Visual Studio

 Medium  10 hours

Start hunting down bugs with Visual Studio! Discover through concrete examples the tips, tools, and methodology for getting to the root of problems in your code and fixing errors with unit tests.

Project 4 - 50 hours

Understand your client's needs and design the application of their dreams

Making your customer happy includes listening to what they need in order to design a high quality business domain. It's up to you to come up with the application they've been waiting for!

Skills

- Select a suitable technical solution
- Write detailed specifications
- Analyze customer requirements
- List functionalities required by the customer

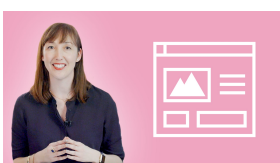
Associated courses



Write Agile Documentation: User Stories & Acceptance Tests

 Medium  10 hours

Learn to communicate in a project management environment! Define the details of a feature with User Stories and Acceptance Tests, and use the Agile Requirements Format to store requirements on a wiki.



Create Simple Prototypes With Wireframes


 Medium  15 hours

Use wireframes to communicate how a website or app will work. Diagram user flows to make sure the steps are all in place.



Apply a Domain-Driven Design Approach to Development

 Easy

 4 hours

Use DDD to communicate the technical architecture to the various stakeholders in your project, and learn functional modeling using UML use-case diagrams and class diagrams.

Project 5 - 120 hours

Create your first application with ASP.NET Core

A new customer has come to you requesting an application with specific functionalities. Demonstrate what .NET can do for them by building an MVC app while respecting good development practices.

Skills


- Select suitable programming languages for an MVC web application
- Respect good coding practices
- Develop an application with the functionalities expected by the client

Associated courses



Use MVC, SOLID Principles, and Design Patterns in .NET

 Easy


 4 hours

Ready to improve your C# coding practices? Your .NET applications will be cleaner, more robust, and more maintainable with model-view-controller architecture, the SOLID principles, and design patterns.



Kick Start Your MVC Application With ASP.NET Core

 Medium

 8 hours

Improve your efficiency as a C# developer with a Model-View-Controller (MVC) framework. ASP.NET Core does the heavy lifting so you can create better modern, cloud-based, internet-connected applications in much less time!



Secure Your .NET Application



Medium



6 hours

Sharing sensitive data in real time is an essential element of back-end development! Use .NET Core, Identity Framework, and Token Authentication to secure your .NET MVC application.

Project 6 - 130 hours

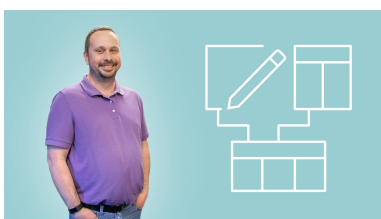
Design and create a production-ready .NET application

Your first application impressed your customer, they now want it live! Time to turn to a database and make it production-ready!

Skills

- Implement a data schema in a database
- Produce the design schema of an application database
- Design the technical architecture of an application database using an ERD

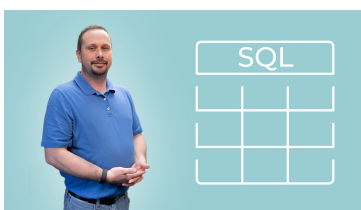
Associated courses



Design the Logical Model of Your Relational Database

 Easy  4 hours

Ready to store your application's data? Let's cover the basics of SQL and design the structure of your first relational database with an Entity Relationship Diagram (ERD).



Implement a Relational Database with SQL

 Easy  4 hours

Ready to put your database modeling skills to use? Design and build a physical relational database with Structured Query Language (SQL) and learn the tools to manipulate your table data.





Implement a Relational Database With ASP.NET Core

 Medium  6 hours

Integrate a relational database with your MVC application in ASP.NET Core using C#, LINQ, code-first migrations, SSMS, and database-first integration.



Apply a Domain-Driven Design Approach to Development

 Easy  4 hours

Use DDD to communicate the technical architecture to the various stakeholders in your project, and learn functional modeling using UML use-case diagrams and class diagrams.

Project 7 - 100 hours

Make your .NET back end more adaptable with a REST API

Modernize the back end of an application with a REST API. Make sure it's tested, secured, and ready for deployment!

Skills


- Implement REST APIs using best practices

Associated courses



Build Your Web Projects With REST APIs

 Easy

 4 hours

Learn how to enrich your web projects with REST and RESTful APIs! You'll be able to access other services' data that can then be integrated into your own applications. APIs will bring a whole new dimension to your software!

Scale your .NET app with distributed systems

A new client needs its monolithic application adapted to evolve more easily. Now it's up to you to make a more efficient, decoupled web application!

Skills

- Produce technical and functional documentation for the application
- Improve an application as per a customer request
- Complete a Unit and Integration test suite to account for changes
- Fix faults reported by the customer on an application

Project 9 - 10 hours

Survey the technology landscape

Create your own dashboard to stay up to date on all the latest and greatest tech happenings!

Skills


- Set up a system for staying up to date with technology
- Identify tools and resources for staying up to date with technology

Associated courses



Stay Up to Date With Innovations in Your Field

 Easy

 4 hours

Learn how to stay abreast of industry changes, pinpoint areas for professional development, and work more efficiently in the digital age.

Project 10 - 130 hours

Produce the right, agile, .NET solution for your customer!

Build an application for disease risk screenings. Structure your app using a microservice and a NoSQL database. Organize your time into sprints, following Agile project management principles.

Skills


- Create a segmented REST API
- Create a microservice for an application
- Implement Agile methodology to manage your code project
- Use NoSQL databases

Associated courses



Learn About Agile Project Management and SCRUM

 Easy

 15 hours

Learn the principles of Agile software development. Discover how a SCRUM team plans a sprint, builds feedback into each cycle, creates retrospectives, and holds daily standups.