



JOB GUIDE

Software
Developer



A brief introduction into what the role entails

The role of a software developer engages in identifying, designing, installing and testing a software system they have built for a company from the ground up. It can range from creating internal programmes that can help businesses to be more efficient, to producing systems that can be sold on the open market. Once software developers have delivered the final software system, they will also help in maintaining and updating the programme to ensure that all security problems are fixed and that it operates with new databases. Some software developers create applications that allow people to do specific tasks on a computer or mobile and others develop the underlying systems that control networks. ^{*1}

Job titles and descriptions in IT are not standardised. Instead of a software developer, you may be called a systems/software/database/web programmer, engineer or developer, depending on the system you're developing. ^{*2}





KEY RESPONSIBILITIES IN THIS ROLE ^{*2} (MAY INCLUDE BUT ARE NOT LIMITED TO)

- Producing detailed program specifications
- Working with other software developers to create algorithms
- Writing clean code in line with program requirements
- Integrating programs with third-party platforms
- Maintaining, troubleshooting, debugging, and upgrading existing software
- Reviewing existing systems to identify areas for improvements
- Recommending and executing program upgrades
- Deploying new systems and programs
- Preparing training resources for end users
- Creating technical documentation for reference and reporting purposes

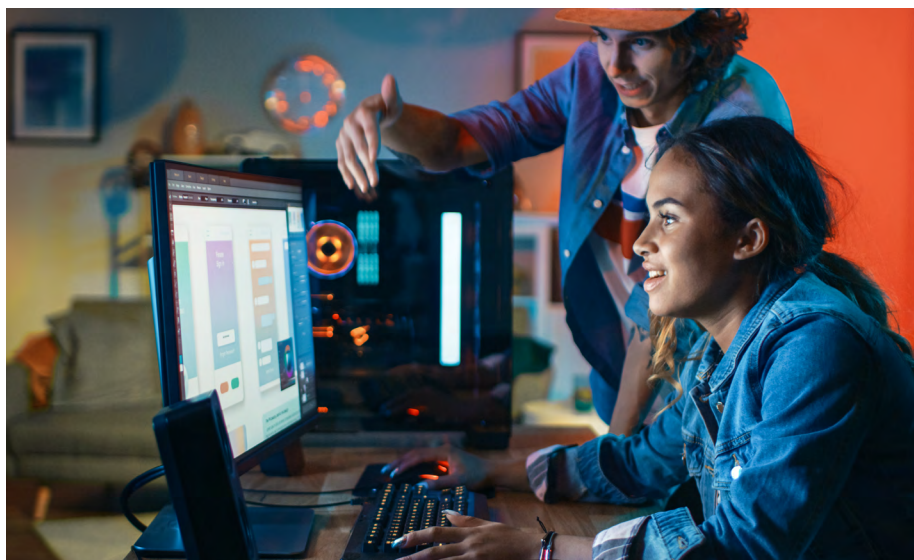
WHAT CAN YOU EXPECT TO GET PAID AS A SOFTWARE DEVELOPER? ^{*2}

The exact salary you'll receive is dependent upon the company, location and nature of your employer's business.

- Typical graduate software developer salaries start from £18,000 a year.
- The average annual salary for an experienced software developer is between £25,000 and £50,000.
- At senior or management level, software developer can earn £45,000 to £70,000 or more per annum. Bonus schemes may be available.

WHAT HOURS CAN YOU EXPECT TO WORK? ^{*1}

Working hours can vary somewhat depending on the company itself and projects happening at the time. Most software developer roles will be full time roles that reach a total of between 37-40 working hours per week.



WHAT ENTRY QUALIFICATIONS DO YOU NEED TO BECOME A SOFTWARE DEVELOPER? ^{*4}

You can get into this job through a university course, a college course, an apprenticeship, or a graduate training scheme:

University

You could do a foundation degree, higher national diploma or a degree in:

- Computer science
- Information technology
- Software development
- Financial technology
- Software engineering for business
- Maths

Entry requirements

You'll usually need:

- 1 or 2 A levels, or equivalent, for a foundation degree or higher national diploma
- 2 to 3 A levels, or equivalent, for a degree

College

You could do a college course, such as:

- A Level in Computing
- Level 3 Certificate in Programming
- T Level in Digital Production, Design and Development
- Higher National Certificate in Computing

After your course, you could complete a more advanced qualification, such as a higher apprenticeship.

You could also get a trainee position with a company.

Entry requirements

You'll usually need:

- 4 or 5 GCSEs at grades 9 to 4 (A* to C), or equivalent, including English, maths and computing
- 4 or 5 GCSEs at grades 9 to 4 (A* to C), or equivalent, including English and maths for a T level
- 1 or 2 A levels, or equivalent, for a higher national certificate or higher national diploma

Apprenticeship

You could do an apprenticeship such as:

- Software development technician advanced apprenticeship
- Software developer higher apprenticeship
- DevOps engineer higher apprenticeship
- Digital and technology solutions professional or specialist degree apprenticeship
- Game programmer degree apprenticeship

Entry requirements

You'll usually need:

- 5 GCSEs at grades 9 to 4 (A* to C), or equivalent, including English and maths, for an advanced apprenticeship
- 4 or 5 GCSEs at grades 9 to 4 (A* to C) and A levels, or equivalent, for a higher or degree apprenticeship





WHAT EXPERIENCE DO YOU NEED TO BECOME A SOFTWARE DEVELOPER? ^{*5}

Ideally, a successful candidate would have one or a combination of the following experience:

- Analytical thinking
- Maths knowledge for understanding programming
- Being thorough and paying attention to detail
- Coming up with new ways of doing things
- Complex problem-solving
- Excellent verbal communication skills for sharing ideas
- Persistence and determination
- Writing computer programs
- Understanding computer systems and applications

WHAT SPECIFIC SOFTWARE/PLATFORM SKILLS ARE ESSENTIAL TO POSSESS IN THE ROLE? ^{*7/8}

A software developer must have a number of key abilities:

- The ability to program in at least one language, such as Java, Python, C++, or Ruby
- Understanding of software development processes like Agile or Waterfall
- Knowledge of database management and design
- Being familiar with software development technologies like Git, JIRA, and Visual Studio Code
- Knowledge of software testing and debugging, practical testing framework and tool experience

WHAT DEVELOPMENT OPPORTUNITIES CAN A SOFTWARE DEVELOPER EXPECT? ^{*5/6}

- The development of their technical skills is one of many software developers' primary areas of attention. They might anticipate having the chance to deal with new technologies and programming languages as they complete various projects.
- The capacity to broaden their knowledge in many facets of software development, such as project management and program management. They should be given the chance to oversee teams of developers as they gain expertise in the field so that they may hone their leadership and management abilities.
- They can anticipate having opportunities to increase their skill set and knowledge as well as staying current with the most recent advancements and industry best practices. Several strategies can be used to do this, such as taking training classes, earning certifications, going to conferences and seminars, and taking part in professional development workshops.



WHAT SKILLS DO YOU NEED TO BE A SOFTWARE DEVELOPER? ^{*2}

Although this list is not exhaustive, below is a summary of some of the skills considered most integral to being a top-tier software developer:

- Knowledge of computer systems and technologies
- Technical competency
- The ability to communicate with clients, colleagues and management to explain complex issues clearly and concisely
- A meticulous and organised approach to work
- A logical, analytical and creative approach to problems
- Thoroughness and attention to detail
- Business skills and commercial awareness
- The ability to work both in a team and alone and to manage your own workload
- Career motivation and a willingness to continue to further your knowledge and skills
- An ability to learn new skills and technologies quickly
- An awareness of current issues affecting the industry and its technologies



WHAT LEARNING TRAINING COURSES/ BOOTCAMPS COULD HELP YOU BECOME A SOFTWARE DEVELOPER? ^{*9/10}

There are many educational and training opportunities available to those who want to pursue careers as software developers. The type of courses required for a software development position may vary, but there are several ways to gain knowledge and develop your skills. Some of these include:

- Earning a degree in computer science or a closely related discipline can provide you with a strong foundation in the theories and methods of software development.
- A variety of online courses and tutorials on software development are available on websites like Coursera, Udemy, and Codecademy.
- Bootcamps in software development are offered by institutions like General Assembly and Flatiron School.

WHAT OTHER ROLES COULD A SOFTWARE DEVELOPER EASILY NAVIGATE INTO? ^{*11}

1. Software tester
2. Front-end developer
3. Back-end developer
4. Software engineer
5. Full stack developer
6. Development operations engineer
7. Cybersecurity analyst
8. Database administrator
9. Systems analyst
10. IT supervisor



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