

National Apprenticeship - Occupational Profile

Apprenticeship Title Software Development Associate

NFQ Level 6

Duration 2 Years

**Typical tasks/
responsibilities**

A Software Development Associate builds and tests high-quality code across front end, logic and database layers. Development Associates typically work as part of a larger team, in which they have responsibility for some of the straightforward elements of the overall project. While the customer requirements will typically be defined and agreed by more experienced or specialist members of the team, such as a business analyst or technical architect, the Software Development Associate will be able to interpret design documentation and specifications.

On successful completion, the Software Development Associate will be able to:

Knowledge

- Understand and operate at all stages of the software development lifecycle
- Understand the similarities and differences (taking into account positives and negatives of both approaches) between agile and waterfall software development methodologies
- Understand how teams work effectively to produce software and contributes appropriately
- Understand and apply software design approaches and patterns and can interpret and implement a given design, compliant with security and maintainability requirements
- Understand and respond to the business environment and business issues related to software development
- Understand and operate effectively in their own businesses, their customers and the industry's environments
- Understand and apply the maths required to be a software developer (e.g. algorithms, logic and data structures)

Skills

- Write good quality code (logic) with sound syntax in at least one language
- Develop effective user interfaces
- Effectively link code to the database/data sets
- Test code and analyse results to correct errors found using either V-model manual testing and/or using unit testing
- Apply structured techniques to problem solving, can debug code and can understand the structure of programmes in order to identify and resolve issues
- Create functional data models and software designs to effectively communicate understanding of the program, following best practices and standards

Skills

Cont'd

- Understand and create basic analysis artefacts, such as user cases and/or user stories
- Utilise skills to build, manage and deploy code into enterprise environments
- Operate at all stages of the software development lifecycle, with increasing breadth and depth over time with initial focus on build and test
- Apply good practice approaches according to the relevant paradigm (for example object oriented, event driven or procedural)
- Interpret and follow:
 - software designs and functional/technical specifications
 - company defined 'coding standards' or industry good practice for coding
 - testing frameworks and methodologies
 - company, team or client approaches to continuous integration, version and source control

Competencies

- Logical and creative thinking skills
- Analytical and problem solving skills
- Maintain a productive, professional and safe work environment
- Communicate effectively in a variety of situations
- Record and report information accurately to a wide range of internal and external stakeholders
- Apply strong interpersonal skills when dealing with colleagues, customers and clients
- Flexible attitude
- Ability to work independently and to take responsibility
- A thorough approach to work and commitment to quality
- Passion for IT

Industry/industries served by the apprenticeship

Software products, applications and services are widely used across many sectors and potentially all sectors in a modern economy. Most ICT Associate Professional Software Development Associates will work in the ICT sector industries who research, develop, design, sell, install and maintain software products and services. However a large number will work in other sectors which use, develop and apply software solutions to support their activity.