

Software Developers, Quality Assurance Analysts, and Testers

SOC: 15-1252 • Career Profile Report

■ Key Facts

\$131,450

Median Salary

1,895,500

Employment

+15.0%

Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 8.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■ Work-Life Balance

8.5/10 - Excellent work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	7.4/10	Investigative	9.2/10
Artistic	4.6/10	Social	5.4/10
Enterprising	5.6/10	Conventional	6.8/10

■ Top Skills Required

Analytical skills, Communication skills, Creativity, Detail oriented, Interpersonal skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Software Developers, Quality Assurance Analysts, and Testers are technology professionals who design, build, test, and maintain **software applications and systems that power modern businesses, services, and digital experiences**. Together, they ensure software functions correctly, securely, and efficiently—from initial concept through deployment and ongoing improvement. Their work underpins everything from mobile apps and websites to enterprise platforms and critical infrastructure.

This career is well suited for individuals who enjoy problem-solving, logical thinking, and working with technology to create reliable digital solutions.

What Do Software Developers, QA Analysts, and Testers Do?

These professionals collaborate throughout the software development lifecycle.

Common responsibilities include:

- Designing and developing software applications or systems
- Writing, reviewing, and maintaining source code
- Creating test plans, test cases, and testing frameworks
- Identifying, documenting, and tracking software defects
- Performing manual and automated testing
- Collaborating with product managers, designers, and engineers
- Deploying updates and improving existing software

Key Roles Within This Occupation

While closely related, each role has a distinct focus:

- Software Developers: Build and enhance applications, features, and system logic.
- Quality Assurance (QA) Analysts: Define quality standards and validate software behavior.
- Software Testers: Execute tests to uncover bugs, performance issues, or usability problems.
- Automation Engineers: Develop automated test scripts and frameworks.
- Full-Stack Developers: Work across front-end and back-end systems.

Skills and Abilities Needed

This occupation blends technical expertise with analytical thinking.

Core Professional Skills

Personal Qualities That Matter

Education and Career Pathway

Entry into this field typically requires technical education and hands-on experience:

- Bachelor's Degree (common): Computer science, software engineering, or related fields
- Alternative Pathways: Coding bootcamps, certifications, or self-taught experience
- Internships or Entry-Level Roles: Practical experience in development or testing
- On-the-Job Training: Learning specific systems and codebases
- Continuous Skill Development: Keeping up with languages, frameworks, and tools

Where Do Software Developers, QA Analysts, and Testers Work?

They are employed across virtually every industry:

- Technology and Software Companies

- Financial Services and Banking
- Healthcare and Insurance Organizations
- Government and Public Sector Agencies
- E-commerce, Media, and Gaming Companies
- Startups and Consulting Firms

Many roles offer remote or hybrid work options.

How Much Do Software Developers, QA Analysts, and Testers Earn?

Earnings vary by specialization, experience, and industry:

- Entry-Level Professionals: Typically earn competitive technology salaries
- Experienced Developers or QA Engineers: Often earn higher compensation
- Specialized Roles (Automation, Security, Lead): May earn premium pay

Compensation often includes bonuses, benefits, and stock options.

Is This Career Difficult?

This career is intellectually demanding and fast-evolving. Professionals must continuously learn new tools, adapt to changing requirements, and solve complex problems under deadlines. The challenge lies in balancing speed, quality, and reliability while keeping pace with technology advancements.

Who Should Consider This Career?

This career may be a strong fit if you:

- Enjoy logical problem-solving and building systems
- Like working with technology and code
- Are detail-oriented and quality-focused
- Can adapt to continuous learning
- Want a versatile, high-demand career

How to Prepare Early

- Learn basic programming and computer science concepts
- Practice problem-solving and logical thinking
- Build small projects or applications
- Explore testing methodologies and automation tools
- Participate in coding clubs, hackathons, or internships

Software developers, quality assurance analysts, and testers transform ideas into dependable digital products—combining creativity, precision, and collaboration to ensure the software that powers modern life works exactly as intended.