SOFTWARE TESTING TUTORIAL CONTENT

1. WHAT WILL YOU LEARN?

Software testers play a critical role in application development. They are quality assurance experts who put applications through the wringer to root out bugs, poor performance and interface issues. To do this, they run all kinds of tests – stress, performance, functional, scalability, user acceptance – at different stages of the software life cycle.

The skills you will develop through this tutorial are:

- Create and document automated and manual test plans and procedures, execute tests, analyze results, and report on test problems and anomalies (document bugs)
- Perform software testing in all phases of the design-develop-test-release-maintain software life cycle
- Understand various development methodologies, such as agile and scrum, and software testing platforms or environments
- Acquire thorough knowledge of several testing tools
- Be fluent in Unix, Linux and/or Windows as well as scripting and command-line tools
- Be a multitasker
- Be a good communicator (written and verbal) with development, operations, product management and customers
- Acquire knowledge of various programming languages, such as Java, JavaScript, and Python.
2. HOW WILL THIS TUTORIAL BENEFIT YOU?
   - This tutorial will prepare you to apply for an admission to a degree in Computer Science in a college/university.
   - This tutorial will enhance your skills and boost your employability for an entry level Software Testing position if you have the aptitude.

3. REQUIREMENTS
   - Strong Aptitude (The candidate will need to pass an aptitude test).
   - An inquisitive mind
   - Willingness to be diligent

4. TUTORIAL STRUCTURE

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<th>Hours</th>
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<td>Introduction to Software Life Cycle</td>
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<td>Fundamentals of Testing</td>
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<td>Static techniques</td>
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<td>Introduction to Performance Testing</td>
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<td>10</td>
<td>Interview Preparation</td>
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</tbody>
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5. TOOLS AND TECHNOLOGIES
   The tools and technologies one will become familiar with through this tutorial are as follows:

<table>
<thead>
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<th>NO</th>
<th>TOOL/ TECHNOLOGY</th>
<th>FUNCTIONALITY</th>
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<tr>
<td>3</td>
<td>JIRA</td>
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<td>GITHUB</td>
<td>CODE REPOSITORY AND VERSION CONTROL</td>
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<td>5</td>
<td>SELENIUM</td>
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<td>6</td>
<td>TESTNG</td>
<td>AUTOMATED TESTING FRAMEWORK</td>
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<td>7</td>
<td>POSTMAN</td>
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<tr>
<td>8</td>
<td>ECLIPSE</td>
<td>INTEGRATED DEVELOPMENT ENVIRONMENT</td>
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<tr>
<td>9</td>
<td>MS EXCEL</td>
<td>REPORTING</td>
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<td>10</td>
<td>MS WORD</td>
<td>DOCUMENTATION</td>
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6. SAMPLE JUNIOR SOFTWARE TEST ENGINEER JOB DESCRIPTIONS

On successful tutorial completion, each candidate should be prepared for application for admission to a recognized college/university for a degree in Computer Science. Those with aptitude might even qualify for an entry level Junior Software Test Engineer position.

Two samples job description of such a position are as below:

**Junior Test Engineer: Job Description 1**

This entry-level position is ideally suited for new grads or veterans returning to the workforce. This position allows you to grow your capabilities by learning from our other
highly skilled staff members in a fast-paced environment and interfacing with end-users as well as software development teams

**Responsibilities:**

- Develop new and update existing software test cases to include test acceptance criteria (requires analytical abilities)
- Peer review of test cases provide feedback and updates as needed
- Execute test cases
- Document test findings (bugs, change requests, etc.) (requires detail orientation)
- Provide manual testing, mobile testing, load testing and regression testing in support of the system
- Work with software developers to address and resolve bugs/issues (requires a strong collaborative spirit)
- Build an understanding of functionality of the system and the requirements within the user stories
- Assist in preparing test deliverables
- Assist, as needed, in other functional areas of the project including training and analysis.

**Qualifications:**

Experience with client/server and web-based applications in a Microsoft Windows environment with Oracle and/or SQL Server backend

A Bachelor’s degree is preferred.

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**Junior Test Engineer: Job Description 2**

We are currently seeking an entry-level QA Tester to join our IT team. Our team members play an integral role in the innovation and growth of our organization. Our IT team consists of individuals working towards a common goal of professional development and providing the best possible solutions to lead the company in sustained and profitable growth.

**JOB SUMMARY:**

As a Junior QA Tester, you will be responsible for testing multiple projects. Teamwork and a professional attitude are key in this role. Well-organized and detail orientation are the essential skills for this position. Communication skills, both written and oral must be professional and accurate. Strong interpersonal skills are very important.

**RESPONSIBILITIES:**

- Capability to work in the fast pace environment
- Ability to work on multiple assignments simultaneously and produce high quality products
- Documenting: updating testing processes; keep testing documentation updated
• Strong problem solving and analytical skills demonstrated by the ability to assimilate new information, understand complex topics and arrive at sound analysis and judgment
• Experience in writing user stories, creating defects and reporting test results
• Experience in creating and executing functional and regression test cases
• Ability to work independently and as part of a team
• Participate in Scrum Meetings - stand up, planning and retrospective meetings
• Assist Automation team
• Other duties as assigned

KNOWLEDGE, SKILLS, AND BEHAVIORS:
• Junior/Entry level experience
• Understanding of agile methodologies is a plus
• SQL scripting knowledge is a big plus
• Experienced with User Acceptance Testing, Smoke Testing, Functional testing and Regression testing
• Capable of contributing to libraries with little to no supervision as well as providing supervision for more junior engineers
• Well-organized and detail oriented
• Ability to deal effectively with individuals at all levels and attain desired results.
• Must have the ability to collaborate with cross-functional team to achieve business results.
• Works well under stress and tight deadlines
• Effective communication, presentation, negotiation and persuasion skills.
• Balances listening and talking, speaking and writing clearly and accurately, influencing others and keeping others informed.
• Achieves a standard of excellence with work processes and outcomes, honoring company policies and regulatory compliance.
• Team oriented, building strong working relationships and a positive work environment.
• Is receptive to feedback and willing to learn, embracing continuous improvement.

REQUIRED EDUCATION, WORK EXPERIENCE, LICENSES & CERTIFICATIONS

Bachelors or Masters in a technical field (Computer Science, Data Analytics, Information Technology, etc.) OR technical experience and knowledge gained from going through a technical program/internship/boot camp

For more information, please visit Next Generation Innovation L.L.C. website at https://www.nexgeninnovation.com