Regression Testing Techniques Training Course

Professional Development Training Course Outline

Category	Quality Assurance and ISO standards	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Regression testing plays a critical role in modern software development by ensuring that new code changes do not disrupt existing functionality. With continuous integration, agile methodologies, and frequent product updates, organizations need highly effective regression testing strategies to maintain software quality. Regression Testing Techniques Training Course introduces regression testing techniques that improve testing efficiency, enhance software reliability, and reduce risks associated with defects. Participants will gain hands-on knowledge of trending testing tools, frameworks, and automation strategies widely used in the software industry today.

Through this comprehensive training, learners will understand how to apply regression testing within different environments, manage test suites effectively, and optimize test coverage using automation and data-driven approaches. The course also emphasizes real-world applications and case studies, enabling participants to apply knowledge directly to organizational testing projects. By the end of this program, participants will be prepared to lead regression testing initiatives that align with industry best practices and contribute to overall product quality improvement.

Programme Curriculum

Regression Testing Techniques Training Course

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Course Objectives

1. Understand the fundamentals of regression testing and its role in software quality assurance.
2. Learn automation techniques for regression testing using trending tools and frameworks.
3. Explore agile and DevOps integration for regression testing practices.
4. Apply data-driven and keyword-driven testing methods effectively.
5. Optimize test suite maintenance for scalability and efficiency.
6. Gain insights into cloud-based regression testing solutions.
7. Implement continuous integration and continuous testing pipelines.
8. Analyze defect patterns to improve regression coverage.
9. Develop strategies for prioritizing regression test cases.
10. Understand the role of AI and machine learning in regression test optimization.
11. Apply risk-based regression testing approaches for critical applications.
12. Evaluate performance impacts through regression testing techniques.
13. Enhance reporting and documentation practices for stakeholders.

Organizational Benefits

1. Improved product stability and reliability.
2. Reduced cost of fixing post-release defects.
3. Enhanced customer satisfaction through quality assurance.
4. Increased efficiency in test execution using automation.
5. Faster release cycles with reduced risks.
6. Streamlined collaboration between development and QA teams.
7. Scalable regression testing processes adaptable to organizational needs.
8. Improved compliance with industry standards.
9. Enhanced decision-making through detailed test reports.
10. Stronger competitive advantage in software quality.

Target Audiences

1. Software Test Engineers
2. Quality Assurance Analysts
3. Automation Test Engineers
4. Agile Testers
5. DevOps Professionals
6. Test Managers
7. Software Developers
8. IT Project Managers

Course Duration: 5 days

Course Modules

Module 1: Introduction to Regression Testing

- Definition and importance of regression testing.
- Types of regression testing approaches.
- Differences between regression and retesting.
- Industry best practices and standards.
- Emerging trends in regression testing.
- Case Study: Identifying missed defects during software updates.

Module 2: Test Suite Design and Maintenance

- Structuring regression test suites effectively.
- Test case selection and prioritization strategies.
- Reducing redundancy in regression test cases.
- Automation frameworks for suite maintenance.
- Test coverage optimization techniques.
- Case Study: Optimizing a large-scale regression suite for scalability.

Module 3: Automation Tools for Regression Testing

- Introduction to Selenium, JUnit, TestNG, and Cypress.
- Framework design considerations for automation.
- Continuous testing with Jenkins and GitLab CI/CD.
- AI-enabled automation frameworks.
- Cloud-based automation solutions.
- Case Study: Implementing automation in agile regression cycles.

Module 4: Regression Testing in Agile and DevOps

- Role of regression testing in agile sprints.
- Integrating regression testing in DevOps pipelines.
- Regression testing for continuous delivery.
- Handling frequent code changes efficiently.
- Collaboration between QA and development teams.
- Case Study: Regression testing integration in DevOps pipelines.

Module 5: Risk-Based Regression Testing

- Understanding risk analysis in software projects.
- Identifying critical modules for regression coverage.
- Prioritizing tests based on business risk.
- Balancing test coverage and project timelines.
- Tools for risk-based test management.
- Case Study: Applying risk-based regression testing to a banking system.

Module 6: Data-Driven and Keyword-Driven Regression Testing

- Principles of data-driven regression testing.
- Applying keyword-driven frameworks.
- Test automation scripting strategies.

- Reusability of test assets.
- Managing large datasets for regression tests.
- Case Study: Implementing a data-driven regression suite for e-commerce.

Module 7: Advanced Regression Testing Techniques

- Performance regression testing approaches.
- Security regression testing.
- Visual regression testing for UI consistency.
- Regression testing in mobile applications.
- Regression testing for APIs and microservices.
- Case Study: Handling visual regression issues in mobile applications.

Module 8: Reporting and Metrics in Regression Testing

- Key performance indicators for regression testing.
- Automated reporting tools and dashboards.
- Communicating results to stakeholders.
- Analyzing trends for continuous improvement.
- Creating audit-ready documentation.
- Case Study: Implementing a metrics-driven reporting system for stakeholders.

Training Methodology

- Instructor-led interactive sessions.
- Hands-on exercises using real-world tools.
- Group discussions and collaborative problem-solving.
- Practical case study analysis for each module.
- Simulated regression testing projects for practice.
- Continuous feedback and assessments.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
21 Sep 2026	25 Sep 2026	Online	$1,000
21 Sep 2026	25 Sep 2026	Physical	$1,500
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0
21 Sep 2026	25 Sep 2026	Physical	$0

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