STC TECHNOLOGIES

# AI INTEGRATED FULLSTACK SOFTWARE TESTING

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# ABOUT STC

**STC (Software Technology Consultants) focuses on delivering industry-relevant training that translates directly into real-world capability. Through hands-on learning, modern tools, and structured workflows, students are equipped to transition confidently from learning to execution.**

**Every program is aligned with current industry standards, ensuring practical expertise and strong professional readiness.**



# 100% PLACEMENT ASSISTANCE DRIVEN PROGRAM

**A dedicated placement system designed to move you into the industry. From portfolio and profile building to interview readiness and opportunity access, every step is focused on helping you secure the right role**

# WHY THIS COURSE?

**The AI Driven Software Testing and DevOps Program by STC (Software Technology Consultants) is designed to deliver real-world, job-ready skills, not just theory.**

**It brings together Software Testing, Automation, DevOps, and AI into one structured learning journey aligned with current industry demands.**

**At STC, learning is practical and career focused, with real tools, workflows, and project scenarios that build true application and confidence. By the end, you don't just complete a course, you're ready to perform in a professional environment.**



# FUNDAMENTALS
## OF SOFTWARE TESTING

QUALITY SQF PRINCIPLE SOFTWARE TESTING
DIFFERENCE BETWEEN DEBUGGING
AND TESTING QUALITY ASSURANCE
QUALITYCONTROL



## SOFTWARE DEVELOPMENT
## LIFE CYCLE(SDLC)

- SDLCPHASES
- SDLCMODELS
- WATERFALL MODEL
- SPIRALMODE
- ITERATIVEMODEL
- VMODEL
- INCREMENTALMODEL
- AGILEMODEL

## AGILE MODE

- SCRUM
- KEYELEMENTS
- SCRUM ACTIVITIES ARTIFACTS
- ADVANTAGES AND DISADVANTAGES OF
- AGILEMODEL

# STATIC TESTING

- STATIC TESTING
- TYPES OF STATIC TESTING
- ROLES OF REVIEW
- REVIEW PROCESS
- DIFFERENCE BETWEEN STATIC & DYNAMIC TESTING
- OVERVIEW OF STATIC ANALYSIS TOOLS

# TEST TECHNIQUES

- BLACK BOX TESTING TECHNIQUE
- WHITE BOX TESTING TECHNIQUE
- EXPERIENCE BASED TESTING TECHNIQUE

# SOFTWARE TESTING LIFE CYCLE (STLC)

- STLC PHASES
- TEST PLANNING
- TEST CONDITION
- TEST CASE
- TEST CASE PREPARATION
- TEST SUITE
- TEST SCRIPT
- TEST EXECUTION ACTIVITIES
- SEVERITY
- PRIORITY
- DEFECT LIFE CYCLE
- TESTING LEVELS

# TEST MANAGEMENT

- REQUIREMENT MANAGEMENT
- CHANGE MANAGEMENT
- CONFIGURATION MANAGEMENT
- RISK MANAGEMENT
- PDCA CYCLE

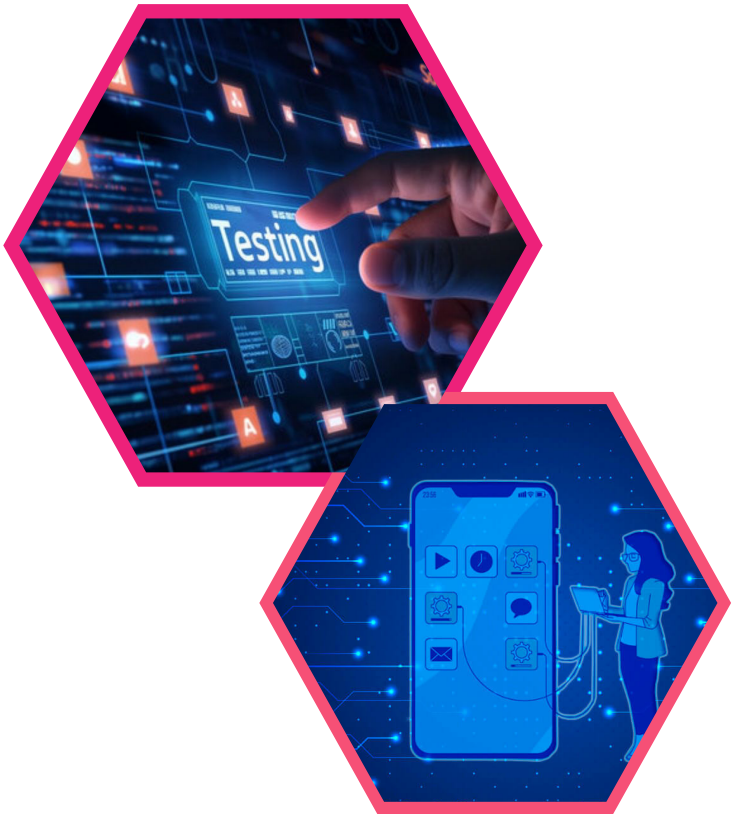
# SOFTWARE TEST TYPES

SMOKE TEST
SANITY TEST
DIFFERENCE BETWEEN SANITY TEST AND SMOKE TEST
ADHOC TESTING
MONKEY TESTING
USABILITY TESTING
REGRESSION TESTING
NEED OF REGRESSION TESTING
DIFFERENCE BETWEEN REGRESSION & RE-TESTING
NEGATIVE TESTING
POSITIVE TESTING
PERFORMANCE TESTING
CONCURRENCY TESTING
FUNCTIONAL TESTING
NON-FUNCTIONAL TESTING
MUTATION TESTING
PATH TESTING

- CONFIRMATION TESTING
- MAINTENANCE TESTING
- RECOVERY TESTING
- GLOBALIZATION TESTING
- A/B TESTING
- CONFIGURATION TESTING
- COMPATIBILITY TESTING

# WEB TESTING

- AGENDA OF WEB TESTING
- FUNCTIONALITY TESTING
- USABILITY TESTING
- CLIENT-SIDE COMPATIBILITY
- SERVER-SIDE INTERFACE
- PERFORMANCE
- SECURITY TESTING




# MOBILE TESTING

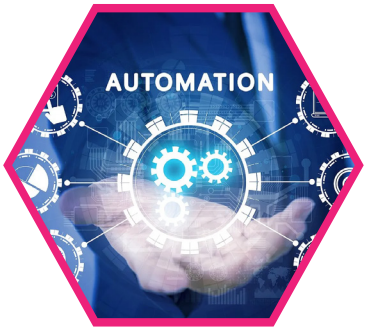
- DEFINITION OF MOBILE TESTING
- TYPES OF MOBILE TESTING
- DIFFERENCE BETWEEN MOBILE &
- MOBILE APPLICATION TESTING
- TYPES OF MOBILE APPLICATIONS
- TYPES OF MOBILE DEVICE TESTING
- TYPES OF MOBILE APPLICATION TESTING
- KEY CHALLENGES
- MOBILE APP TESTING TOOLS

# MANUAL PROJECT

- CURRICULUM PROJECT
- LIVE PROJECT

# INTRODUCTION OF AUTOMATION TOOLS

- DIFFERENCE BETWEEN MANUAL & AUTOMATION TESTING
- TEST AUTOMATION
- AUTOMATED TESTING
- TEST CASE TO AUTOMATE
- AUTOMATION PROCESS
- TEST MANAGEMENT TOOLS
- FUNCTIONAL TESTING TOOLS
- PERFORMANCE TESTING TOOLS
- DEFECT TRACKING TOOLS




# CORE JAVA

- INTRODUCTION TO JAVA
- FEATURES OF JAVA
- NAMING CONVENTIONS IN JAVA
- VARIABLES AND TYPES OF VARIABLES
- DATA TYPES
- ARRAY OBJECT AND CLASS IN JAVA
- JAVA PACKAGE
- JAVA COMMENTS
- SINGLE PROGRAM OF JAVA
- LOOPING & CONTROL STATEMENTS
- JAVA OOPS CONCEPT



- FINAL KEYWORD IN JAVA
- STATIC KEYWORD IN JAVA
- ACCESS MODIFIERS IN JAVA
- EXCEPTION HANDLING

## SELENIUM

- SELENIUM IDE
- SELENIUM INTRODUCTION
- IDE FEATURE
- CREATING SCRIPT USING IDE
- RECORDING
- SELENIUM RC
- SELENIUM WEBDRIVER
- CORE JAVA
- BROWSER LAUNCH
- FINDELEMENT & FINDELEMENTS
- DROP-DOWN HANDLING
- SCREENSHOT
- WEB BASED POPUP
- FRAME HANDLING
- WINDOW BASED POPUP
- MOUSE HOVER
- WINDOW HANDLING
- JUnit
- DIFFERENCE BETWEEN JUnit & TestNG
- TestNG FRAMEWORK
- TestNG PARAMETERISATION
- DATA PARAMETERISATION
- TESTING MAVEN (PAGE OBJECT MODEL)
- EXTENT REPORTS
- PROJECT WORKS

# JIRA

- WHAT IS JIRA
- IMPORTANCE OF JIRA
- METHODOLOGY USED IN JIRA
- JIRA TERMINOLOGY
- WORKFLOW IN JIRA
- BUG REPORTING
- PROJECT WORKS

# JMETER

- COMPONENTS OF JMETER
- TIMERS
- ASSERTIONS
- PARAMETERISATION
- CONTROLLERS
- RECORDING
- PROJECT WORKS

# POSTMAN

- API
- HTTP METHODS
- VALIDATION
- VARIABLES
- PARAMETERISATION
- NODEJS
- NEWMAN REPORT
- PROJECT WORKS

# CUCUMBER

- FEATURE FILE
- SELENIUM INTEGRATION
- CUCUMBER PARAMETERISATION
- HOOKS AND TAGS
- REPORT
- PROJECT WORKS

# GIT AND GITHUB

- GIT INITIALISATION
- GITHUB ACCOUNT CREATION
- CREATION OF GITHUB LINK
- HOW TO PUSH CODE TO GIT

# VEGA

- INTRODUCTION TO VEGA
- SECURITY ISSUES
- SQL INJECTION
- CROSS SITE SCRIPTING
- REFLECTED CROSS SITE SCRIPTING
- STORED CROSS SITE SCRIPTING
- RESPONSE PROCESSING MODULE
- HOW TO SCAN A WEBSITE

# KATALON STUDIO

- INTRODUCTION
- FEATURES OF KATALON STUDIO
- DIFFERENCE BETWEEN SELENIUM AND KATALON STUDIO
- CREATING FIRST TEST CASE IN KATALON STUDIO
- CREATE AND RUN TEST SUITE
- KATALON AUTOMATION RECORDER
- HOW TO GET WEB OBJECTS XPATH OR CSS LOCATOR
- HOW TO USE VARIABLES
- HOW TO REFER AND REUSE TEST CASE
- MANAGE TEST DATA
- RESULT AND REPORTING
- HOW TO CREATE ENVIRONMENTS OR EXECUTION PROFILE
- API TESTING
- WINDOWS DESKTOP APPLICATION TESTING
- PROJECT WORKS



# APPIUM



- INTRODUCTION
- ADVANTAGES AND DISADVANTAGES OF APPIUM
- LOCATORS OF MOBILE ELEMENT
- APPIUM INSPECTOR
- CREATE AND RUN TEST SCRIPTS
- PROJECT WORKS

# AI IN TESTING

- THE ROLE OF AI IN MODERN TESTING
- AI-POWERED TEST CASE GENERATION
- PREDICTIVE ANALYTICS IN TESTING
- AUTOMATED DEFECT IDENTIFICATION AND PRIORITIZATION

# HANDS ON WITH AI TESTING TOOLS

- OVERVIEW OF LEADING AI TESTING TOOLS
- SETTING UP AND USING THESE TOOLS IN REAL WORLD SCENARIOS
- COMPARATIVE ANALYSIS: STRENGTH, WEAKNESS & BEST USE CASES

# CUSTOMIZED USE CASES AND REAL-WORLD APPLICATIONS

- ADDRESSING YOUR SPECIFIC BUSINESS NEEDS
- DESIGNING TEST CASES FOR YOUR APPLICATIONS
- END-TO-END WORKFLOW IMPLEMENTATION
- FUTURE TRENDS AND CONTINUOUS LEARNING
- EMERGING TRENDS IN TESTING AUTOMATION & AI
- BUILDING A ROADMAP FOR CONTINUOUS IMPROVEMENT
- ACCESSING RESOURCES FOR ONGOING SKILL DEVELOPMENT

# KEY TOOLS THAT YOU WILL LEARN






























perplexity

testRigor

applitools

Playwright

# CERTIFICATION

STC TECHNOLOGIES

UBICSOFT IT SOLUTIONS

ISTQB® Certified

nactet

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# THANK YOU