

JMeter

Suresh IT's Training introduces an intensive JMeter course, meticulously designed to provide participants with comprehensive expertise in performance testing using Apache JMeter. This program equips students with practical skills to design and execute performance tests, analyse test results, and identify performance bottlenecks in web applications, APIs, and databases. By mastering JMeter, graduates are equipped to ensure the scalability, reliability, and responsiveness of software systems, thereby enhancing user experience and minimising downtime in production environments.

Course Duration : 45 Days

Course Language : English/Hindi/Telugu

Classroom : Offline/Online Training/Hybrid Training

Description

The JMeter course is a comprehensive program designed to provide individuals with the knowledge and skills required to effectively utilise Apache JMeter, a powerful open-source tool for performance testing and load testing of web applications. Geared towards software testers, performance engineers, and developers, this course offers hands-on training in JMeter's capabilities, features, and best practices.

Throughout the course, participants will explore various aspects of performance testing, including test planning, test script creation, test execution, and result analysis. They will learn how to simulate realistic user scenarios and emulate high loads to assess the performance, scalability, and reliability of web applications under different conditions.

Moreover, the JMeter course covers essential topics such as parameterization, correlation, and assertion, enabling participants to create robust and scalable performance test scripts. Participants will also learn how to leverage JMeter's built-in reporting and analysis tools to interpret test results, identify performance bottlenecks, and optimise application performance.

By the end of the course, participants will be equipped with the skills and confidence to leverage JMeter effectively for performance testing and load testing of web applications, reducing the risk of performance-related issues and ensuring a seamless user experience. With their newfound expertise in JMeter, participants will

be well-positioned to drive performance optimization initiatives and contribute to the delivery of high-quality, high-performing software applications.

Skills you get

- Proficiency in JMeter Interface and Components
- Creating and Executing Test Plans
- Performance and Load Testing
- Analysing and Interpreting Test Results
- Scripting and Parameterization
- Integration with CI/CD Pipelines

Course Contents

Introduction to JMeter

- Overview of Performance Testing
- Introduction to Apache JMeter
- JMeter Features and Capabilities
- Installing JMeter (Windows, macOS, Linux)
- JMeter GUI Overview
- Install JMeter and explore the user interface
- Create a simple test plan with HTTP requests

Test Plan Elements

- Test Plan Structure
- Thread groups
- Samplers (HTTP Request, FTP Request, JDBC Request)
- Config elements (HTTP Request Defaults, User Defined Variables)
- Listeners (View Results Tree, Summary Report)
- Timers, Assertions, and Preprocessors/Post-Processors

Exercises:

- Create a test plan with multiple samplers
- Use config elements to parameterize requests
- Add listeners to view and analyse results

Building Advanced Test Plans

- Logic controllers (Simple, Loop, Once Only, Interleave)
- User defined variables and functions
- Using regular expressions in JMeter
- Parameterization and correlation
- Handling dynamic data

Exercises:

- Create a test plan using various logic controllers

- Implement parameterization with CSV Data Set Config
- Extract and reuse dynamic data with regular expression extractor

Performance Testing

- Load Testing vs. Stress Testing
- Designing load tests
- Distributed testing with JMeter
- Monitoring server performance
- Analysing test results

Exercises

- Design and execute a load test
- Set up distributed testing environment
- Use listeners and external tools to analyse performance metrics

Scripting and Automation

- Scripting in JMeter (BeanShell, Groovy)
- JMeter functions and variables
- Integration with CI/CD pipelines
- Non-GUI mode testing
- Automating test execution

Exercises:

- Write and execute scripts using BeanShell or Groovy
- Use JMeter functions to enhance test scripts
- Integrate JMeter with Jenkins for automated testing

Testing Different Protocols

- Web Services Testing (SOAP, REST)
- Database testing with JDBC
- FTP and SMTP testing
- JMS (Java Messaging Service) testing

- Mobile Application Performance Testing

Exercises:

- Create test plans for SOAP and REST web services
- Execute database tests using JDBC requests
- Test FTP and SMTP servers
- Set up and execute JMS testing

Best Practices and Optimization

- JMeter best practices
- Test plan optimization
- Debugging and troubleshooting
- Reporting and visualisation of results
- Real-world case studies

Exercises:

- Optimise an existing test plan for better performance
- Debug a complex test plan with multiple components
- Generate and customise reports

Advanced Topics

- Plugin management in JMeter
- Custom samplers and config elements
- Cloud-based performance testing
- Advanced result analysis with tools like Grafana
- Security testing with JMeter

Exercises:

- Install and use popular JMeter plugins
- Create custom samplers using JMeter APIs
- Set up a cloud-based load test using tools like Blazemeter
- Visualise test results with Grafana and InfluxDB

This course structure ensures that learners get a thorough understanding of JMeter, from basic to advanced concepts, along with practical, hands-on experience.