



## Agenda: Hyperledger Fabric v2.5 Performance Optimization using Caliper and Tape



### Module 1: Introduction to Hyperledger Fabric v2.5 and Performance Optimization

1. Course Introduction
2. Agenda
3. Course objectives

### Module 2: Fabric Network Creation and Configuration

- Overview of Hyperledger Fabric v2.5
- Importance of performance optimization in blockchain networks
- Installing prerequisites
- Network Topology
  - 3 org Network
  - 2 org Network
- Network topology design & Setting up a Hyperledger Fabric v2.5 network
- Deploying and invoking chaincodes

- Invoking Transaction
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## Module 3: Caliper Configuration and Integration

- Introduction to Hyperledger Caliper
  - Purpose and features of Caliper
  - Caliper architecture overview
  - Installing and setting up Caliper
  - Configuring Caliper for Fabric v2.5
  - Creating benchmark configuration files
  - Integrating Caliper with your Fabric network
  - Running performance tests with Caliper
  - Analyzing and interpreting Caliper results
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## Module 4: Tape Configuration and Integration

- Introduction to Tape
  - Purpose and features of Tape
  - Installing and setting up Tape
  - Creating configuration files
  - Integrating Tape with your Fabric network
  - Setting up benchmark scenarios and Conducting performance benchmarks with Tape
  - Analyzing and interpreting Tape results
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## Module 5: Performance Optimization Techniques

- Analyzing benchmark results from Caliper and Tape
  - Identifying performance bottlenecks & Optimization strategies
  - Network-level optimizations
  - Block size optimization techniques
  - Infrastructure and hardware considerations
  - A step-by-step approach to reaching high TPS like 1000 for Invoke
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## Course Objectives

By the end of this course, You will be able to:

1. Set up and configure a Hyperledger Fabric v2.5 network optimized for high performance.
2. Understand the key factors affecting blockchain network performance.
3. Install, configure, and use Hyperledger Caliper & Tape for performance benchmarking.
4. Analyze and interpret performance metrics from both Caliper and Tape.
5. Identify common performance bottlenecks in Fabric networks.
6. Apply various optimization techniques to improve network performance.
7. Achieve and validate transaction speeds of up to 1000 TPS in a Fabric network.

8. Compare and contrast different performance testing tools and methodologies.
9. Develop strategies for continuous performance monitoring and optimization in production environments.

 Course Prerequisites

- Basic understanding of Hyperledger Fabric concepts
- Familiarity with JavaScript and Node.js
- Basic knowledge of shell scripting
- Experience with Docker and containerization
- Comfort using command-line interfaces