Day - 1

- **Architectural Approaches and Software Architecting Process**
  - Microservices Architecture
  - Monolithic Architecture
  - Serverless Architecture
  - Event-Driven Architecture (EDA)
  - Layered (N-Tier) Architecture
  - Domain-Driven Design (DDD)
  - Component-Based Architecture
  - Microkernel Architecture (Plug-in Architecture)
  - Client-Server Architecture
  - Peer-to-Peer (P2P) Architecture
  - Hexagonal Architecture (Ports and Adapters)
  - CQRS (Command Query Responsibility Segregation)
  - Service-Oriented Architecture (SOA)
  - Lazy Loading Architecture
  - Server-Side Rendering (SSR) and Static Site Generation (SSG)
  - Scalability Best Practices

- **Software architecting process**
  - Understanding Business and Technical Requirements
  - Defining Architecture Vision
  - Selecting the Right Architecture Style
  - Defining High-Level System Components
  - Choosing Technology Stack
  - Defining Data Architecture
  - Designing for Scalability
  - Designing for Availability and Fault Tolerance
  - Security Architecture
  - Performance and Optimization
  - Defining Integration and Interoperability
  - Prototype and Proof of Concept (PoC)
  - Review and Refine Architecture
  - Documentation and Communication
  - Implementation and Deployment
  - Continuous Improvement and Maintenance

Day - 2

- **Latest best practices and trends in software development**
  - Agile and DevOps Integration
  - Microservices Architecture
  - Serverless Computing
  - Cloud-Native Development
  - Artificial Intelligence (AI) and Machine Learning (ML)
  - Edge Computing
  - Blockchain Technology
  - Low-Code and No-Code Development
  - Automated Testing and Quality Assurance
  - API-First Design
  - Security-First Approach
  - Containerization and Kubernetes
  - Cloud Security and Compliance
  - Progressive Web Apps (PWAs)
  - Infrastructure as Code (IaC)
  - Real-Time Collaboration and Communication Tools
  - Containerized Databases and Data Services
  - User-Centered Design and UX/UI Optimization
  - Observability and Monitoring
  - Ethical Software Development

- **Balancing Software Development Skills and Output**
  - Introduction to Software Development Skill vs. Output
  - Understanding Software Development Skills
  - The Impact of Skills on Software Quality and Output
  - Measuring Software Development Output
  - Skill vs. Output in Agile Teams
  - The Influence of Developer Experience on Output
  - Optimizing Developer Skills for Better Output
  - The Role of Continuous Learning in Balancing Skill vs. Output
  - Managing Developer Output vs. Well-Being
  - Measuring and Tracking Skills in the Team
  - Quality Assurance and Its Impact on Output
  - Collaboration and Communication for Improving Output
  - Managing Trade-offs Between Skills and Output
  - Leveraging Tools and Technology to Improve Output
  - Performance Management and Skill Development
  - Case Studies and Real-Life Examples

- **Team Organization**
  - Introduction to Team Organization
  - Types of Team Structures
  - Key Principles of Effective Team Organization
  - Team Building and Development
  - Skills and Competencies for Team Managers
  - Effective Communication within Teams
  - Aligning Team Structure with Organizational Goals
  - Team Performance Management
  - Managing Cross-functional and Distributed Teams
  - Handling Team Transitions and Changes
  - Team Metrics and Analytics
  - Leadership Styles and Their Impact on Team Organization
  - Creating a Culture of Accountability and Responsibility
  - Sustaining High-Performing Teams
  - Case Studies and Real-Life Examples
  - Soft Skills for Technical Leaders

Day - 3

- **Quality Process Implementation and Stages**
  - Agile and DevOps Integration
  - Introduction to Quality in Software Development
  - Overview of Quality Process Models
  - Quality Assurance vs. Quality Control
  - Stages of Quality Process Implementation
  - Best Practices for Quality Process Implementation
  - Roles and Responsibilities in Quality Processes
  - Quality Metrics and KPIs
  - Risk Management and Mitigation Strategies
  - Change Management and Continuous Improvement
  - Quality Audits and Reviews
  - Tooling for Quality Process Automation
  - Defect Management and Root Cause Analysis
  - Compliance and Regulatory Requirements
  - Quality in Agile Software Development
  - Challenges in Implementing Quality Processes

- **Best Practices in Software Development Documentation**
  - Introduction to Software Development Documentation
  - Types of Software Documentation
  - Best Practices for Creating Effective Documentation
  - Tools for Software Documentation
  - Maintaining and Updating Documentation
  - Documenting Software Architecture and Design
  - API Documentation Best Practices
  - Documenting Testing and Quality Assurance
  - Documentation in Agile and DevOps Environments
  - Collaboration and Communication in Documentation
  - Security and Compliance in Documentation
  - Onboarding New Team Members with Documentation
  - Common Pitfalls in Software Documentation
  - Measuring the Effectiveness of Documentation
  - Case Studies and Real-Life Examples

- **Modern Software Development Tools**
  - Version Control Tools
  - Continuous Integration/Continuous Delivery (CI/CD) Tools
  - Containerization and Virtualization Tools
  - Code Quality and Static Analysis Tools
  - Collaboration and Project Management Tools
  - Monitoring and Logging Tools
  - API Testing and Automation Tools
  - Database Management Tools
  - Cloud Platforms
  - Code Review and Collaboration Tools
  - Security Tools
  - Testing Frameworks
  - DevOps Tools
  - ChatOps and Communication Tools
  - Continuous Testing Tools

- **Solutions for Managing Production Environments**
  - Monitoring & Observability
  - Log Management & Analysis
  - Alerting & Incident Management
  - Performance Testing & Load Testing
  - Configuration Management & Automation
  - Infrastructure as Code (IaC)
  - Container Orchestration & Management
  - Continuous Integration / Continuous Deployment (CI/CD)
  - Security & Vulnerability Scanning
  - Error Tracking & Debugging
  - Database Performance Monitoring
  - Service Mesh & API Management
  - Backup & Disaster Recovery
  - Cloud Cost Management & Optimization
  - Distributed Tracing & Debugging
  - Content Delivery Network (CDN)
  - Risk Management in Production

- **Emerging Technologies and Trends**
  - Quantum Computing
  - 5G
  - IoT (Internet of Things)
  - Robotics
  - AI/ML for Software Development

- **Case Studies and Industry Examples**