Lecture 1: Foundations of Distributed Systems

Module 1: Architecture, CAP Theorem & Consensus Models

1. Definition: A distributed system is a collection of autonomous computing nodes that communicate over network.
2. Transparency Goals: Location, Migration, Replication, Concurrency, and Failure transparency.
3. The CAP Theorem: In an asynchronous network partition, choose between Consistency and Availability.
4. Fallacies of Distributed Computing: Network is reliable, Latency is zero, Bandwidth is infinite.
5. Readings: Chapter 1-3 of Coulouris et al. Distributed Systems: Concepts and Design.