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| Distributed System | |
| **SOURCE: 01** | **Distributed Computing** | |
| 01 | [Introduction to Distributed Systems | Introduction to Distributed Computing](https://www.youtube.com/watch?v=klUH2wqxzyw&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=1&pp=iAQB) | |
| 02 | [Characteristics of Distributed Systems](https://www.youtube.com/watch?v=G9THM5kLhAE&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=2&pp=iAQB) | |
| 03 | [Challenges of Distributed System](https://www.youtube.com/watch?v=PQcLfxRf6RQ&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=3&pp=iAQB) | |
| 04 | [Goals of Distributed System](https://www.youtube.com/watch?v=S9ECVzRXyyA&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=4&pp=iAQB) | |
| 05 | [Types of Distributed System](https://www.youtube.com/watch?v=Up0CywcrfVQ&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=5&pp=iAQB) | |
| 06 | [Distributed System Models](https://www.youtube.com/watch?v=QAd7XGVPyfo&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=6&pp=iAQB) | |
| 07 | [Software Concepts](https://www.youtube.com/watch?v=z1bR2cwdBpk&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=7&pp=iAQB) | |
| 08 | [Hardware Concepts](https://www.youtube.com/watch?v=nsw46wo_Jjg&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=8&pp=iAQB) | |
| 09 | [Differentiation Between Distributed OS, Network OS and Middleware OS](https://www.youtube.com/watch?v=F25CSZXl0oA&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=9&pp=iAQB) | |
| 10 | [Client Server Model](https://www.youtube.com/watch?v=CTlxyJ32VLU&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=10&pp=iAQB) | |
| 11 | [Open System Interconnect on Reference Model in Distributed Computing](https://www.youtube.com/watch?v=n5bOGECAS7k&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=11&pp=iAQB) | |
| 12 | [Inter-process Communication in Distributed Computing](https://www.youtube.com/watch?v=BQEY3twvk8A&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=12&pp=iAQB) | |
| 13 | [Remote Procedure Call in Distributed Computing](https://www.youtube.com/watch?v=z0S6o7cGXuE&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=13&pp=iAQB) | |
| 14 | [Remote Method Invocation](https://www.youtube.com/watch?v=KAifFb3OE5c&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=14&pp=iAQB) | |
| 15 | [Differentiate Between Message Oriented Communication and Stream Oriented Communication](https://www.youtube.com/watch?v=b2OlNCVWonM&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=15&pp=iAQB) | |
| 16 | [Stream Oriented Communication](https://www.youtube.com/watch?v=ZzBRT6Db4mU&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=16&pp=iAQB) | |
| 17 | [Message Oriented Communication](https://www.youtube.com/watch?v=bUWiRv__QkU&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=17&pp=iAQB) | |
| 18 | [Group Communication](https://www.youtube.com/watch?v=OeeY4Ysq81A&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=18&pp=iAQB) | |
| 19 | [Middleware Services in Distributed Computing](https://www.youtube.com/watch?v=-wTCe7nFyOI&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=19&pp=iAQB) | |
| 20 | [Introduction to Synchronization in Distributed Computing](https://www.youtube.com/watch?v=SA7nzTgeWVg&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=20&pp=iAQB) | |
| 21 | [Cristian Algorithm](https://www.youtube.com/watch?v=KH5QDvL5ido&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=21&pp=iAQB) | |
| 22 | [Berkeley Algorithm](https://www.youtube.com/watch?v=rYWxIB8HoRw&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=22&pp=iAQB) | |
| 23 | [Network Time Protocol](https://www.youtube.com/watch?v=jAf3_4Hyac8&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=23&pp=iAQB) | |
| 24 | [Logical Clocks](https://www.youtube.com/watch?v=nps88TsKFE4&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=24&pp=iAQB) | |
| 25 | [Lamport Logical Clock](https://www.youtube.com/watch?v=taRbDdlAK7s&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=25&pp=iAQB) | |
| 26 | [Vector Clock](https://www.youtube.com/watch?v=Q69Thj9vFw4&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=26&pp=iAQB) | |
| 27 | [Bully Algorithm](https://www.youtube.com/watch?v=PMjWOWDp9Vo&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=27&pp=iAQB) | |
| 28 | [Ring Algorithm](https://www.youtube.com/watch?v=DSiHKW3jA04&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=28&pp=iAQB) | |
| 29 | [Mutual Exclusion](https://www.youtube.com/watch?v=izS9J07ToRM&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=29&pp=iAQB) | |
| 30 | [Centralized Algorithm for Mutual Exclusion in Distributed Computing](https://www.youtube.com/watch?v=t_pdXt_BzBo&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=30&pp=iAQB) | |
| 31 | [Lamport Algorithm and Mutual Exclusion](https://www.youtube.com/watch?v=Fr9yFVi-w7M&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=31&pp=iAQB) | |
| 32 | [Ricart Agrawala Algorithm for Mutual Exclusion](https://www.youtube.com/watch?v=MUmCrwyzMCE&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=32&pp=iAQB) | |
| 33 | [Maekawa’s Algorithm](https://www.youtube.com/watch?v=t5O9-nJ5PMM&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=33&pp=iAQB) | |
| 34 | [Resource Management in Distributed Computing](https://www.youtube.com/watch?v=CibCIGLmziw&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=34&pp=iAQB) | |
| 35 | [Features of Global Scheduling Algorithm](https://www.youtube.com/watch?v=KcotktVyCCg&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=35&pp=iAQB) | |
| 36 | [Task Assignment Approach](https://www.youtube.com/watch?v=dI7efEs3EfU&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=36&pp=iAQB) | |
| 37 | [Load Balancing Approach](https://www.youtube.com/watch?v=tWxv4GK_uk4&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=37&pp=iAQB) | |
| 38 | [Issues of Designing Load Balancing Algorithms](https://www.youtube.com/watch?v=CSpzAPPpJ9o&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=38&pp=iAQB) | |
| 39 | [Load Sharing Approach in Distributed Computing](https://www.youtube.com/watch?v=5ECsNTMGJPs&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=39&pp=iAQB) | |
| 40 | [Introduction to Process Management in Distributed Computing](https://www.youtube.com/watch?v=NWJciU3NWIk&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=40&pp=iAQB) | |
| 41 | [Process Migration in Distributed Computing](https://www.youtube.com/watch?v=cQkeElt85E8&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=41&pp=iAQB) | |
| 42 | [Threads in Distributed Computing](https://www.youtube.com/watch?v=aexHrvT35q8&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=42&pp=iAQB) | |
| 43 | [Process vs Threads in Distributed Computing](https://www.youtube.com/watch?v=5lLxoSdb1zE&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=43&pp=iAQB) | |
| 44 | [Code Migration in Distributed Computing](https://www.youtube.com/watch?v=rqjOnltLLE8&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=44&pp=iAQB) | |
| 45 | [Consistency and Replication in Distributed Computing](https://www.youtube.com/watch?v=DGR1jNeY1x8&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=45&pp=iAQB) | |
| 46 | [Replication Management in Distributed Computing](https://www.youtube.com/watch?v=dtP3z7NcKW0&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=46&pp=iAQB) | |
| 47 | [Fault Tolerance in Distributed Computing](https://www.youtube.com/watch?v=soMKryszT2E&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=47&pp=iAQB) | |
| 48 | [Distributed File System in Distributed Computing](https://www.youtube.com/watch?v=Xhi3hqbiXNM&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=48&pp=iAQB) | |
| 49 | [Desirable Features of Distributed File System in Distributed Computing](https://www.youtube.com/watch?v=DzqbxOw6NeA&list=PLPIwNooIb9vhYroMrNpoBYiBUFzTwEZot&index=49&pp=iAQB) | |
| **SOURCE: 02** | **Distributed System** | |
| 01 | [Distributed System Introduction | DS Architecture | Example](https://www.youtube.com/watch?v=WW7KkUvshhc&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=1&pp=iAQB) | |
| 02 | [Distributed System Resource Sharing and Web Challenges | Data Migration | Computational Migration](https://www.youtube.com/watch?v=AhmNcDDjRC4&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=2&pp=iAQB) | |
| 03 | [System Model | Architecture Model | Fundamental Model](https://www.youtube.com/watch?v=Nz2p4OsmbkQ&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=3&pp=iAQB) | |
| 04 | [Limitations | Absence of Global Clock | Absence of Shared Memory](https://www.youtube.com/watch?v=EBUT1KNgWs0&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=4&pp=iAQB) | |
| 05 | [Distributed System | Lamport’s Logic Clock | Limitation](https://www.youtube.com/watch?v=18i50-qZT60&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=5&pp=iAQB) | |
| 06 | [Distributed System | Vector Clock | Vector Clock Solved Example](https://www.youtube.com/watch?v=pKn_RLtj4I0&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=6&pp=iAQB) | |
| 07 | [Causal Ordering of Messages in Distributed System | Birman Schiper Stephenson Protocol](https://www.youtube.com/watch?v=P4NytX1DJZE&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=7&pp=iAQB) | |
| 08 | [Global State in Distributed System | Chandy Lamport Global State Recording Algorithm](https://www.youtube.com/watch?v=uFm17IalvYs&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=8&pp=iAQB) | |
| 09 | [Distributed System | Termination Detection Algorithm | Huang’s Termination Detection Algorithm](https://www.youtube.com/watch?v=ObYhcXjcmXE&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=9&pp=iAQB) | |
| 10 | [Distributed Mutual Execution Classification, Requirements of Mutual Exclusion Theorem](https://www.youtube.com/watch?v=3fyatXVOO6o&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=10&pp=iAQB) | |
| 11 | [Distributed System | Distributed Mutual Exclusion | Token Based and Non-Token Based Algorithm](https://www.youtube.com/watch?v=yduKTBqVAH8&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=11&pp=iAQB) | |
| 12 | [Distributed Mutual Exclusion | Non-Token Based Algorithm | Lamport Non-Token Based Algorithm](https://www.youtube.com/watch?v=5cbv54mM6mU&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=12&pp=iAQB) | |
| 13 | [Distributed Mutual Exclusion | Non-Token Based Algorithm | Ricart-Agrawala Algorithm](https://www.youtube.com/watch?v=-mnSxGp7rXk&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=13&pp=iAQB) | |
| 14 | [Distributed Mutual Exclusion | Non-Token Based Algorithm | Maekawa’s Algorithm](https://www.youtube.com/watch?v=-Lafcg6_CfU&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=14&pp=iAQB) | |
| 15 | [Distributed Mutual Exclusion | Token Based Algorithm | Suzuki Kasami Broadcast Algorithm Example](https://www.youtube.com/watch?v=9vPAtfk1ufY&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=15&pp=iAQB) | |
| 16 | [Distributed Mutual Exclusion | Token Based Algorithm | Singhal Heuristic Algorithm](https://www.youtube.com/watch?v=wyQ_VoUoiCg&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=16&pp=iAQB) | |
| 17 | [Distributed Mutual Exclusion | Token Based Algorithm | Raymond Tree Algorithm](https://www.youtube.com/watch?v=8zyk2Gf4sio&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=17&pp=iAQB) | |
| 18 | [Performance Metric for Distributed Mutual Exclusion Algorithm](https://www.youtube.com/watch?v=WGn0LO4tOfg&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=18&pp=iAQB) | |
| 19 | [Distributed Deadlock Detection | Resource vs Communication Deadlocks Distributed System](https://www.youtube.com/watch?v=IbmOd-v6ME4&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=19&pp=iAQB) | |
| 20 | [Centralized Deadlock Detection | Completely Centralize Algorithm | Ho Ramamurthy Algorithm](https://www.youtube.com/watch?v=BVIVVhdv6oc&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=20&pp=iAQB) | |
| 21 | [Distributed Deadlock Detection | Path Pushing Algorithm with Example](https://www.youtube.com/watch?v=1n1PMR-bBUU&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=21&pp=iAQB) | |
| 22 | [Distributed Deadlock Detection | Edge Chasing Algorithm with Example](https://www.youtube.com/watch?v=TSaO9APyxFw&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=22&pp=iAQB) | |
| 23 | [Agreement Protocols | Distributed System | Classification of Agreement Problem | Byzantine](https://www.youtube.com/watch?v=HB5THwTeaUc&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=23&pp=iAQB) | |
| 24 | [Classification of Agreement Problem | Byzantine | Consensus Problem | Interactive Consistency](https://www.youtube.com/watch?v=GyIByk-xH0U&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=24&pp=iAQB) | |
| 25 | [Application of Agreement Problem | Atomic Commit in Distributed System](https://www.youtube.com/watch?v=8Mlh29P2oM4&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=25&pp=iAQB) | |
| 26 | [Distributed File Systems | Architecture of Distributed File | Distributed Resource Management](https://www.youtube.com/watch?v=EFpwjVg-ODU&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=26&pp=iAQB) | |
| 27 | [Mechanism for Building Distributed File Systems | Building DFS](https://www.youtube.com/watch?v=L0IGLb3PeyY&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=27&pp=iAQB) | |
| 28 | [Distributed Shared Memory | Algorithm for Implementation Shared Memory | Central-Server Algo](https://www.youtube.com/watch?v=_wVt9bCis_I&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=28&pp=iAQB) | |
| 29 | [Backward and Forward Error Recovery in Distributed System | Recovery in Concurrent System](https://www.youtube.com/watch?v=BcMtsv2E8tc&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=29&pp=iAQB) | |
| 30 | [Transaction in Distributed System | ACID Properties Distributed Transaction](https://www.youtube.com/watch?v=notyG7HaCz4&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=30&pp=iAQB) | |
| 31 | [Consistent Set of Checkpoints in Distributed System | Recovery in Distributed System](https://www.youtube.com/watch?v=-wFiwxp3vSI&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=31&pp=iAQB) | |
| 32 | [Issues in Fault Tolerance | Voting Protocol n Distributed System](https://www.youtube.com/watch?v=gZCjXzi67jw&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=32&pp=iAQB) | |
| 33 | [Transactions and Concurrency Control: Transaction and Nested Transaction](https://www.youtube.com/watch?v=CkkyPWLdx3w&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=33&pp=iAQB) | |
| 34 | [Locks and Types of Lock | Distributed Transactional Lock](https://www.youtube.com/watch?v=eOdpTX-n3Rs&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=34&pp=iAQB) | |
| 35 | [Timestamp Ordering Protocol for Concurrency Control](https://www.youtube.com/watch?v=zFbbj0a6kUs&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=35&pp=iAQB) | |
| 36 | [Comparison of Methods for Concurrency Control | Optimistic Concurrency Control, Timestamp](https://www.youtube.com/watch?v=slTizbVkGQ8&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=36&pp=iAQB) | |
| 37 | [Distributed Transaction: Flat and Nested Distributed Transactions](https://www.youtube.com/watch?v=ChjUflFtS6s&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=37&pp=iAQB) | |
| 38 | [Distributed Transaction: Atomic Commit Protocols | Two Phase Commit](https://www.youtube.com/watch?v=kLz8yIRX5KI&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=38&pp=iAQB) | |
| 39 | [Concurrency Control in Distributed Transactions | Optimistic Concurrency Control, Timestamp](https://www.youtube.com/watch?v=yCD55_wz_dY&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=39&pp=iAQB) | |
| 40 | [Distributed Deadlocks, Transaction Recovery in Distributed System](https://www.youtube.com/watch?v=wEfou6tgFYo&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=40&pp=iAQB) | |
| 41 | [Replication: System Model and Group Communication, Fault-Tolerance Service](https://www.youtube.com/watch?v=pT82bDbT7bg&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=41&pp=iAQB) | |
| 42 | [High Available Service | Transaction with Replicated Data in Distributed System](https://www.youtube.com/watch?v=HYb9OOXQJPY&list=PL-JvKqQx2AtdBuhyvazfDL-sIwbA7iTbr&index=42&pp=iAQB) | |