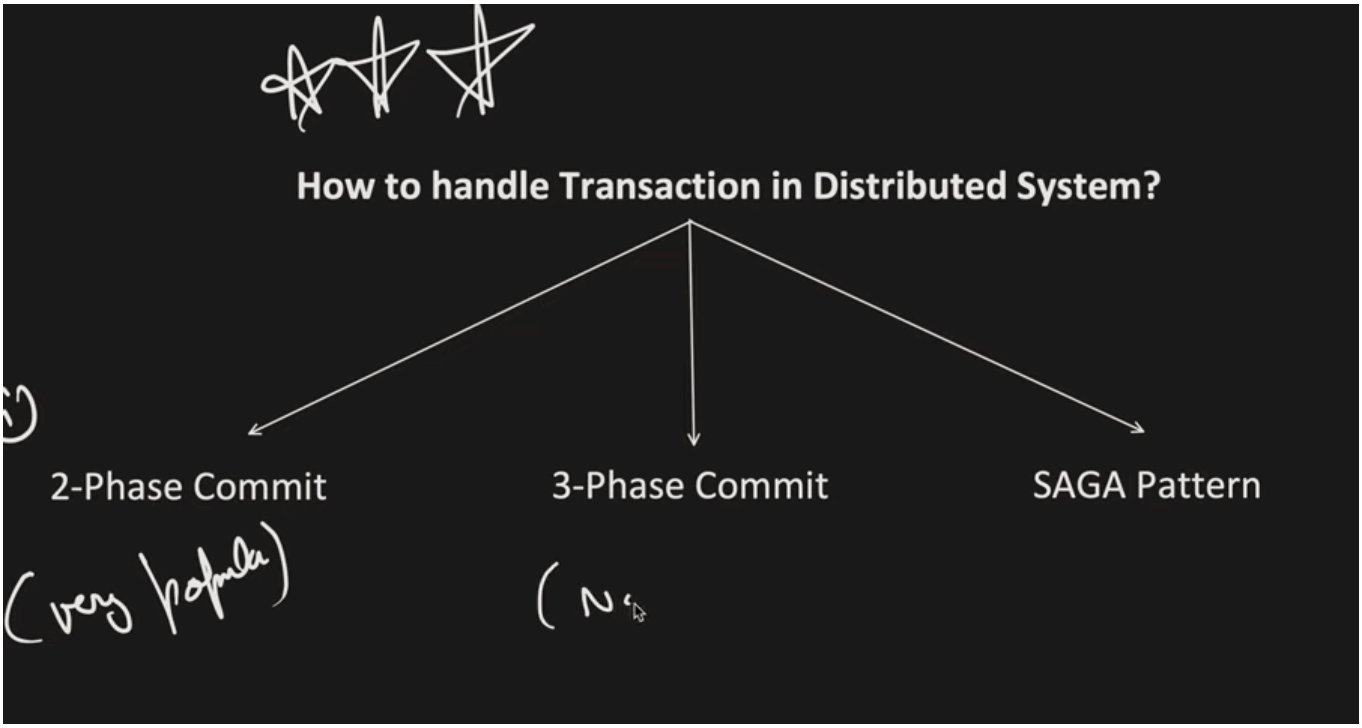
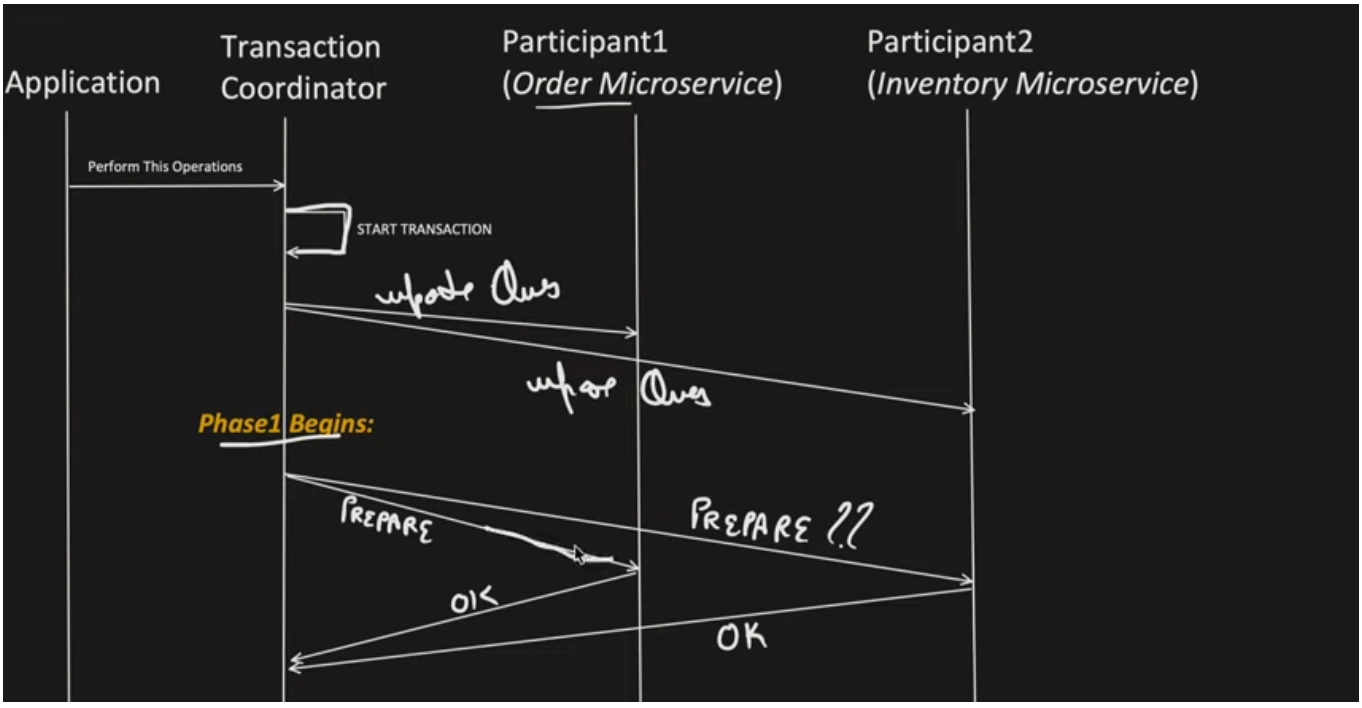
DistributedTransactions

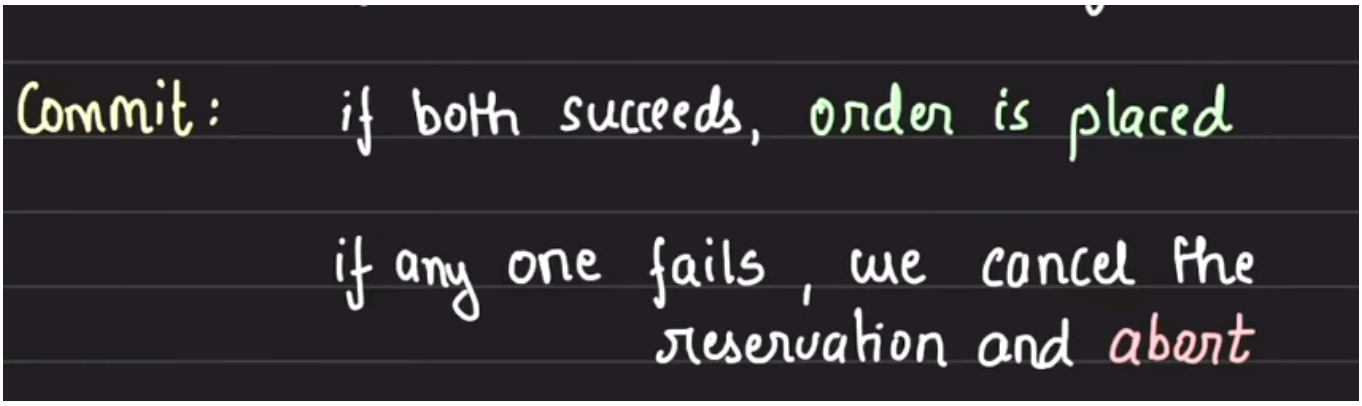


2-PHASE COMMIT
1.VOTING OR PREPARE PHASE
2.DECISION OR COMMIT PHASE



In PHASE-1 both the participants make the changes in the DB but do not commit them.
and they both send messages to the coordinator that they are prepared to commit.

If any of the participants dont send acknowledgements then the transaction will be aborted there itself
In PHASE-2 the coordinators send participants messages to commit the data and send acknowledgements to the database.
Errors that can occur:
Transaction coordinator has failed
Participant can fail
Each coordinator and participant all have log files where they persist the messages they have sent so if they fail they can replay from the log file.
If a prepare message is lost then the participant will abort its transaction, if the coordinator sends a prepare statement after the abortion the participant will reply with a NO.
Say if the OK message is lost, the coordinator will wait for some time and then abort the transaction,if the participant comes up after some time it will ask the coordinator which will replay the message from the log and tell the participant to abort



Say if the coordinator goes down after sending the prepare statements and receiving ok and after sending the commit messages to some participants, the participant which have not received the commit messages have to wait and they cannot take a decision by themselves.