Blockchain (Ganache) Setup & Operation Checklist

PHASE 1: Basic Requirements

- Install Node.js
- Install Ganache
- Install VS Code

PHASE 2: Create Local Blockchain (Ganache)

- Open Ganache and create workspace
- Confirm accounts and ETH balance
- Note RPC URL and Chain ID

PHASE 3: Blockchain Project Setup

- Create project folder
- Initialize Node project
- Install Hardhat

PHASE 4: Write Smart Contract

- Create contracts folder
- Write Solidity (.sol) file
- Define voting rules

PHASE 5: Connect Hardhat to Ganache

- Configure Ganache RPC URL
- Configure Chain ID

PHASE 6: Deploy Smart Contract

- Compile smart contract
- Deploy contract to Ganache
- Save contract address and ABI

PHASE 7: Understand Blockchain Operation

- Smart contract lives on blockchain
- Votes stored as transactions
- Blocks linked permanently

PHASE 8: Connect Frontend (React)

- Display voting UI
- Send vote to blockchain

PHASE 9: Connect Backend (Flask)

- Verify fingerprint
- Authorize voting

PHASE 10: Full Voting Flow

- User votes
- Backend verifies
- Blockchain stores vote

PHASE 11: Testing & Validation

- Test valid voting
- Test double voting
- Check Ganache logs

PHASE 12: Team Sharing

- Share checklist with team
- Assign responsibilities
- Maintain documentation