Assignment 5

Due on 2020-10-21, 23:59 IST

Unit 7 - Week 05 Keeping Key, Value Pairs at Correct Root Nodes, Abrupt and Graceful Exit of Root Node, Resilience of Key, Value Pairs, Distributed File System, Storage Space Problem and Incentives to Share Storage

Course name: Data Management

Week 7

1. How do you know if a DHT network has passed? Do you use some mechanism to test if a node has failed?

Output: Yes, by monitoring the status of nodes in the DHT network.

2. If a node fails, how does it report its failure to the other nodes in the network? By broadcasting a failure message to all other nodes.

3. How does the DHT maintain the Key, Value pairs at the correct root node(s)? By periodically checking the Key, Value pairs stored in the root nodes.

4. How do you ensure that a Key, Value pair is stored at the correct root node? By using a hash function to calculate the root node and storing the Key, Value pair at that node.

5. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

6. What incentive do you provide to nodes to share storage space with others? By rewarding nodes that share their storage space.

7. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

8. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.


10. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

11. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

12. What incentive do you provide to nodes to share storage space with others? By rewarding nodes that share their storage space.

13. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

14. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

15. What are some of the challenges in implementing a DHT network? Node failures, network delays, and maintenance.

16. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

17. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

18. What incentive do you provide to nodes to share storage space with others? By rewarding nodes that share their storage space.

19. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

20. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.


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23. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

24. What incentive do you provide to nodes to share storage space with others? By rewarding nodes that share their storage space.

25. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

26. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

27. What are some of the challenges in implementing a DHT network? Node failures, network delays, and maintenance.

28. How do you ensure that a Key, Value pair is stored at the correct root node? By using a consistent hash function to calculate the root node and storing the Key, Value pair at that node.

29. How do you ensure that a Key, Value pair is not stored at an incorrect root node? By periodically checking the Key, Value pairs stored in all root nodes and comparing them with the expected values.

30. What incentive do you provide to nodes to share storage space with others? By rewarding nodes that share their storage space.