

X

NPTEL

reviewer3@nptel.iitm.ac.in ▼

Courses » Blockchain Architecture Design and Use Cases

Announcements

Course

Ask a Question

Progress

Mentor

FAQ

Unit 6 - Week 4 : Unit 4

Course outline

How to access the portal

FAQ

Week 1 : Unit 1

Week 2 : Unit 2

Week 3 : Unit 3

Week 4 : Unit 4

● Lecture 16 :
Permissioned Blockchain – III
(RAFT Consensus)

● Lecture 17 :
Permissioned Blockchain – IV
(Byzantine General Problem)

● **Lecture 18 :
Permissioned Blockchain – V
(Practical Byzantine Fault Tolerance)**

● Blockchain for Enterprise - Overview

● Blockchain Components and Concepts

● Lecture Materials

● Quiz : Assignment 4

● Week 4 - Feedback

● Assignment-4

Assignment 4

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2018-09-05, 23:59 IST.

1)

1 point

Suppose, a network of 5 nodes uses RAFT consensus protocol. Each node maintains a transaction log which consists of a list of the log entries. Each log entry again consists of index, term and command. The current log structure which consists of the transaction log of all nodes present in the network is as follows:

index		1	2	3	4	5
term		1	1	2	3	3
command	leader	a1	b2	a2	d4	e7
	follower1	a1	b2	a2	d4	
	follower2	a1	b2	a2	d4	e7
	follower3	a1				
	follower4	a1	b2	a2		

Then the maximum possible committed entries (i.e. the network can accept entries upto that command) are:

- ☐ a1 b2 a2 d4
☐ a1 b2 a2 d4 e7
☐ a1
☐ a1 b2 a2

© 2014 NPTEL - Privacy & Terms - Honor Code - FAQs -



A project of



In association with



Funded by

Powered by

Week 8

Week 9

Week 10

Week 11

Week 12

VIDEO
DOWNLOAD

Develop

Suppose, a network of 5 nodes uses RAFT consensus protocol. Each node maintains a transaction log which consists of a list of the log entries. Each log entry contains index and term. All of them are marked themselves as leader candidate and sent the Request Vote (term, index). The current log entries (i.e. list of term and index values) of all the leader candidate nodes are as follows:

index		1	2	3	4	5	6
term	candidate1	1	1	2	3	3	
	candidate2	1	1	2	2	2	2
	candidate3	1	1	2	3		
	candidate4	1	1	2	3	3	3
	candidate5	1	1	2	3	3	

The leader will be:

- ☐ candidate1
☐ candidate2
☐ candidate3
☐ candidate4

No, the answer is incorrect.

Score: 0

Accepted Answers:

candidate4

3) For making a process n node byzantine fault tolerant, the minimum number of nodes required in the synchronous system is: **1 point**

- ☐ $2n+1$
☐ $2n+2$
☐ $3n+1$
☐ $3n+2$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$2n+2$

4) Suppose, there exist at most f faulty nodes in an asynchronous environment. **1 point**
The minimum number of the similar response needed for concluding the decision, is:

- ☐ f
☐ $f+1$
☐ $2f+1$
☐ $3f+1$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$f+1$

5) The synchronous consensus technique(s) is (are):

1 point

- ☐ PAXOS
- ☐ RAFT
- ☐ Byzantine General Model
- ☐ All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

All of the above

6) The consensus protocol which uses the sender identity is:

1 point

- ☐ PAXOS
- ☐ RAFT
- ☐ Byzantine General Model
- ☐ All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Byzantine General Model

7) The consensus protocol that supports message authentication is:

1 point

- ☐ PAXOS
- ☐ RAFT
- ☐ Byzantine General Model
- ☐ Practical Byzantine General Model

No, the answer is incorrect.

Score: 0

Accepted Answers:

Practical Byzantine General Model

8) Which of the following property is unavailable in bitcoin application:

1 point

- ☐ all the users agree to a majority verified transaction
- ☐ the transaction made by the users are verifiable
- ☐ depending on the role of the users, the transaction is visible to them
- ☐ an initiated transaction cannot be rolled back by the user

No, the answer is incorrect.

Score: 0

Accepted Answers:

depending on the role of the users, the transaction is visible to them

9) The data structure used for storing the recent transaction output is:

1 point

- ☐ Blockchain
- ☐ Merkle Tree
- ☐ World State
- ☐ Wallet

No, the answer is incorrect.

Score: 0

Accepted Answers:

World State

10) Which one allows modification of the data element:

1 point

- ☐ Blockchain
- ☐ World State
- ☐ Both
- ☐ None

No, the answer is incorrect.

Score: 0

Accepted Answers:

World State

Previous Page

End