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BTA Certified Blockchain Developer – Hyperledger

Exam A

QUESTION 1

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Chaincode in Hyperledger Fabric is a decentralized transactional program which is running on the validating nodes. Chaincode implements the Chaincode interface in particular, Init and Invoke functions.

Which two statements about Chaincode is correct? (Select two.)

- A. Init is called during instantiate transaction after the chaincode container has been established for the first time, allowing the chaincode to initialize its internal data
- B. Invoke is called to update or query the ledger after a proposal transaction. Update state variables are committed to the ledger before the transaction is committed
- C. Init is called during Instantiate transaction after the chaincode ledger has been established for the first time, allowing the chaincode to initialize its internal data
- D. Invoke is called to update or query the ledger in a proposal transaction. Updated state variables are not committed to the ledger until the transaction is committed.

Correct Answer: AD

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Chaincode is a decentralized transactional program, running on the validating nodes. As with every chaincode, it implements the Chaincode interface in particular, Init and Invoke functions. Init is called during Instantiate transaction after the chaincode container has been established for the first time, allowing the chaincode to initialize its internal data. Invoke is called to update or query the ledger in a proposal transaction. Updated state variables are not committed to the ledger until the transaction is committed.

QUESTION 2

Blockchain solutions are comprised of four building blocks. Which of the following answers list the building blocks?



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- A. Shared ledger, Privacy, Trust, and Smart Contracts or (Chaincode)

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- B. Shared ledger, Centralization, Trustless, and Smart Contracts or (Chaincode)
- C. Shared ledger, Privacy, Trustless, and Smart Contracts or (Chaincode)
- D. Shared ledger, Centralization, Trust, and Smart Contracts or (Chaincode)

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 3

An _____ is defined as a communication node that is responsible for the distribution of blockchain transactions in Hyperledger Fabric.

- A. MSP
- B. Peer Node
- C. Client Node
- D. Endorsing Node
- E. Orderer

Correct Answer: E
Section: (none)
Explanation



Explanation/Reference:

Explanation:

Orderer Ordering services handles the main function of the Hyperledger Fabric to maintain consistency in the transactions processes. Ordering services provides a shared communication to clients and peers and helps in broadcasting the messages containing transactions.

QUESTION 4

When your developing with Fabric Composer which of the following is true?

- A. Decrease the time of development
- B. Simplifies the development of applications
- C. Simplifies the code integration of applications
- D. Increases the time of development

Correct Answer: A
Section: (none)

Explanation**Explanation/Reference:**

Explanation:

Hyperledger Composer is an open-source application development framework which simplifies the creation of Hyperledger Fabric blockchain applications, thus reducing the time and complexity of development. The tool aims at helping users to create blockchain applications based on Hyperledger Fabric without needing to know the low-level (Go Programming) details involved in blockchain networks.

QUESTION 5

Chaincode Services uses Docker to host (deploy) the chaincode without relying on any virtual machine or computer language.

What would be the main reason or best reason that Hyperledger chose containers over virtual machines?

- A. Docker provides a secured, lightweight method to sandbox chaincode execution that is "locked down".
- B. Docker provides a secured, lightweight method to sandbox chaincode execution that is "locked down" but additional programming languages cannot be enabled
- C. Docker provides a secured, lightweight method to sandbox chaincode execution that is not "locked down"
- D. Docker is fully compatible with Hyperledger and Linux with an upgrade subscription.

Correct Answer: A

Section: (none)

Explanation

**Explanation/Reference:**

Explanation:

Docker provides a secured, lightweight method to sandbox chaincode execution that is "locked down" Chaincode Services uses Docker to host (deploy) the chaincode without relying on any virtual machine or computer language. Docker provides a secured, lightweight method to sandbox chaincode execution. The environment is a "locked down" and secured container, along with a set of signed base images containing secure OS and chaincode language, runtime and SDK images for Golang Additional programming languages can be enabled

QUESTION 6

What type of ledger refers to a distributed ledger that doesn't require a native currency to operate?

- A. Tokenless
- B. Public
- C. Enterprise
- D. Private

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

A tokenless ledger refers to a distributed ledger that doesn't require a native currency to operate. Generally, in a private blockchain tokens are not needed due to resources controlled by one party.

QUESTION 7

What is the application that is used by Hyperledger Fabric to communicate with the network?

- A. SDK
- B. SOAP PI
- C. Golang
- D. RPC API
- E. Node.js

Correct Answer: A

Section: (none)

Explanation



Explanation/Reference:

Explanation:

Hyperledger Fabric includes the REST and JSON RPC APIs, events, and an SDK for applications to communicate with the network.

QUESTION 8

Which of the following statements would be the best answer when it comes to channels and the use of ordering services in Hyperledger Fabric?

- A. Channels ensure privacy in a blockchain network and ordering services may support many channels not just one channel.
- B. Channels ensure privacy in a blockchain network and ordering services may not support more than one channel.
- C. Channels do not ensure privacy in a blockchain and ordering services may not support more than one channel.
- D. Channels do not ensure privacy in a blockchain and ordering services may support many channels not just one channel.
- E. Channels do not ensure privacy in a blockchain network and ordering services may support many channels not just one channel.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Channels ensure privacy in a blockchain network Ordering services may support many channels no just one channel.

QUESTION 9

Which of the following would NOT be true about what a smart contract(Chaincode) gives your organization?

- A. Autonomy
- B. Savings
- C. Trust
- D. Legal Assurance

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

While smart contracts (Chaincode) can be written to complement or substitute for legal contracts, their legal enforceability is not yet agreed upon by all state governments

QUESTION 10

What type of peer executes chaincode?

- A. Anchor peer
- B. Endorsing Peer
- C. Chaincode is executed by the client
- D. Ordered Peer
- E. Chaincode is not executed by a peer.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Endorsing Peer can be marked as Endorser peer (i.e. Endorsing peer). Upon receiving the "transaction invocation request" from the Client application the Endorser peer Validates the transaction. Check certificate details and roles of the requester. Executes the Chaincode (Smart Contract) and simulates the outcome

of the transaction. But it does not update the ledger. At the end of the above two tasks the Endorser may approve to disapprove the transaction. As only the Endorser node executes the Chaincode (Smart Contract) so there is no necessity to install Chaincode in each and every node of the network which increases the scalability of the network.

QUESTION 11

What type of certificates act as secure identifiers, digital passports which contain information about the owner in Hyperledger Fabric certificate management?

- A. RSA
- B. PEM
- C. PKI
- D. X509

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

X509 certificates are used in Hyperledger Fabric. An X.509 certificate is any certificate under the X.509 specification standard for public key infrastructure and Privilege Management Infrastructure (PMI). The X.509 provides standardized formats for: Attribute certificates Public key certificates Certificate revocation lists Certification validation algorithms

QUESTION 12

Consensus on the Blockchain defines _____

- A. The distribution of each data block
- B. Agreement of a valid transaction by all the network nodes
- C. Security between two blocks of data
- D. Basic security of the blockchain

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Consensus is when the distributed ledger has been updated and all nodes maintain their own identical copy of the ledger which essentially is an agreement. This is also known as the “World State” in some blockchains. This architecture allows for a new capacity as a system of recordkeeping that goes beyond being a simple database.

QUESTION 13

Which of the following is the BEST definition of Decentralization?



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- A. Peer-to-Peer data sharing, hosting hardware owned by many not few, fault tolerant, secure, lower performance
- B. Distributed data sharing, hosting hardware owned by many not few, fault tolerant, secure, lower performance
- C. Peer-to-Peer data sharing, hosting hardware owned by a few not many, fault tolerant, secure, lower performance

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Peer-to-Peer essentially uses data sharing, hosting hardware owned by many not few, fault tolerant, secure, lower performance. It's common way to share files—a good example was Napster. Peer-to-peer (P2P) file sharing is the distribution of digital media such as software, videos, music, and images through an informal network in order to upload and download files. Typically, P2P software enables users to select which files to share. These files are indexed on a central server, making them available for other users to find and download.

QUESTION 14

Which of the following is the best answer when reviewing a "Code Invoking Transaction" in Hyperledger Fabric?

- A. Code invoking transaction is an SOAP API call to a chaincode function and is similar to how a URL pattern invokes a servlet in J2EE.
- B. Code invoking transaction is an REST API call to a chaincode function and is similar to how a URL pattern invokes a servlet in Node.js
- C. Code invoking transaction is an API call to a chaincode function and is similar to how a URL pattern invokes a servlet in Node.js

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- D. Code invoking transaction is an REST API call to a chaincode function and is similar to how a URL pattern invokes a servlet in J2EE.
- E. Code invoking transaction is an API call to a chaincode function and is similar to how a URL pattern invokes a servlet in HTTPS
- F. Code invoking transaction is an RPC API call to a chaincode function and is similar to how a URL pattern invokes a servlet in HTTPS.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Code invoking transaction is an REST API call to a chaincode function and is similar to how a URL pattern invokes a servlet in J2EE. ServletServlet can be used to create a default mapping for servlets. For example, to create a default mapping to map all servlets to /myservlet/*, so the servlets can be called using http://host:port/web-app-name/myservlet/com/foo/FooServlet, add the following to your web.xml file. (The web.xml file is located in the WEB-INF directory of your Web application.) ServletServlet weblogic.servlet.ServletServlet ServletServlet /myservlet/*

QUESTION 15

You're currently investigating Hyperledger and would like to confirm that there is a set of collaboration tools for building blockchain business networks that accelerate the development of smart contracts and blockchain applications.

What is the solution that meets the requirement?

- A. Hyperledger Explorer
- B. Hyperledger Composer
- C. Hyperledger Quilt
- D. Hyperledger Cello

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Composer (contributed by IBM and Oxchains) is a set of collaboration tools for building blockchain business networks that accelerate the development of smart contracts and blockchain applications, as well as their deployment across a distributed ledger.

QUESTION 16

In Hyperledger Fabric, there are three types of peer nodes depending upon the assigned roles.

What are three types? (Choose three.)

- A. Committing Peer
- B. Endorsing Peer
- C. Peer
- D. Client peer
- E. MSP Peer
- F. Channel Peer
- G. Ordering Peer

Correct Answer: BCG

Section: (none)

Explanation

Explanation/Reference:

Explanation:

So not all peer nodes are same. There are different types of peer nodes with different roles in the network: Endorser peer Anchor peer Orderer peer Endorser peer Peers can be marked as Endorser peer (Endorsing peer). Upon receiving the “transaction invocation request” from the Client application the Endorser peer Validates the transaction. Check certificate details and roles of the requester. Executes the Chaincode (Smart Contract) and simulates the outcome of the transaction. But it does not update the ledger. At the end of the above two tasks the Endorser may approve to disapprove the transaction. As only the Endorser node executes the Chaincode (Smart Contract) so there is no necessity to install Chaincode in each and every node of the network which increases the scalability of the network. Anchor peer Anchor peer or cluster of Anchor peers is configured at the time of Channel configuration. Just to remind you, in Hyperledger Fabric you can configure secret channels among the peers and transactions among the peers of that channel are visible only to them. Anchor peer receives updates and broadcasts the updates to the other peers in the organization. Anchor peers are discoverable. So any peer marked as Anchor peer can be discovered by the Orderer peer or any other peer. Orderer peer Orderer peer is considered as the central communication channel for the Hyperledger Fabric network. Orderer peer/node is responsible for consistent Ledger state accross the network. Orderer peer creates the block and delivers that to all the peers. Orderer is built on top of a message oriented architecture. There are two options are currently available to implement Orderer peer: Solo: Suitable for development. Single point failure. Solo should not be used for the production ready network. Kafka: Production ready Hyperledger Fabric network uses Kafka as the Orderer implementation. Kafka is a messaging software that has high throughput fault tolerant feature.

QUESTION 17

Hyperledger Fabric Consensus is planned out into 3 phases. Which one is NOT a phase?

- A. Ordering
- B. Endorsement
- C. Voting
- D. Validation

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 18

Hyperledger Fabric essentially implements a private validator network protocol.

Which of the following statements are true?

- A. None of the entities in a network must register with membership services to obtain with access and transaction authority on the network.
- B. Selected entities in a network must register with membership services to obtain an identity with access and transaction authority on the network.
- C. All the entities in a network must register with membership services to obtain an identity with access and transaction authority in the network.
- D. Selected entities in a network must register with Reputation Manager to obtain an identity with access and transaction authority on the network.

Correct Answer: C
Section: (none)
Explanation



Explanation/Reference:

Explanation:

Hyperledger is a private validator network protocol. All the entities in a network must register with membership services to obtain an identity with access and transaction authority on the network. Validators determine the level of permissions required to transact. The network setup also defines the network as permissive, allowing the ease of access. It supports for rapid and high adoption for a more controlled and restrictive environment.

QUESTION 19

Which of the following provides Immutability?

- A. Assurance that a transaction cannot be altered
- B. Network configuration cannot be changed
- C. Guarantee that participants will never put bad information on the Blockchain
- D. Network nodes will never fail

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

Reference: <https://www.ibm.com/blockchain/what-is-blockchain>

QUESTION 20

Blockchain services in Hyperledger Fabric manages the distributed ledger through a peer to peer protocol that is built on _____?

- A. HTTP/2
- B. TLS and SSL
- C. TLS
- D. HTTP/1
- E. SSL

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Blockchain services manages the distributed ledger through a peer to peer protocol that is built on HTTP/2. The optimized data structure provides efficient schemes for maintaining the world state (the state of all transactions on the Blockchain) replicated at many participants.

QUESTION 21

Which of the following blockchain key components state how the transactions will be confirmed?

- A. Consensus algorithm
- B. Shared Distributed Ledger
- C. Encryption
- D. Validity Rules

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Validity rules (validation) state how the user and the transactions will be validated. This is predetermined by the consensus algorithm.

QUESTION 22

What must implement every chaincode?

- A. Golang
- B. Chaincode Interface
- C. Java
- D. Linux APIs

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Chaincode Interface is required and supports Go, Node.js or Java.

Reference: <https://hyperledger-fabric.readthedocs.io/en/release-1.3/chaincode4ade.html#chaincode-api>

QUESTION 23

Query is called whenever you query your chaincode's state. Queries do not result in blocks being added to the chain, and you cannot use certain functions.

Which function can you not use inside a Query?

- A. Error
- B. Getstate
- C. Putstate
- D. Read

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://github.com/IBM-Blockchain-Archive/learn-chaincode>

QUESTION 24

_____ is called to update or query the ledger in a proposal transaction. This is called by the chaincode.

- A. Initialize

- B. Init
- C. Update
- D. Invoke

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Invoke is called to update or query the ledger in a proposal transaction. Init is called during Instantiate transaction after the chaincode container has been established for the first time, allowing the chaincode to initialize its internal data. Invoke is called to update or query the ledger in a proposal transaction. Updated state variables are not committed to the ledger until the transaction is committed.

Reference: <https://godoc.org/github.com/hyperledger/fabric/core/chaincode/shim#Chaincode>

QUESTION 25

What means "Forking" the Hyperledger Fabric Github repository? (Select two.)

- A. Fork will fork the entire repository including all the branches.
- B. Forking is not allowed in Github.
- C. Moving this repository to your GitHub account and removing contents from previous repository.
- D. Fork will fork the specific repository without all the branches.
- E. Creating a copy of this repository under your GitHub account.

Correct Answer: AE

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Forking" the repository means creating a copy of this repository under your GitHub account. Note that the fork will fork the entire repository including all the branches.

QUESTION 26

The chaincode's interface implements which of the following functions?

- A. Invoke and Close

- B. Invoke and Revoke
- C. Open and Shut
- D. Open and Close
- E. Invoke and Init

Correct Answer: E

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hyperledger supports the following two types of transactions. Code deploying transaction: A code deploying transaction submits, updates, or terminates a chaincode. Code invoking transaction: A code invoking transaction is an API call to a chaincode function.

QUESTION 27

When deploying a database option there are some important things to consider from a deployment perspective. CouchDB and LevelDB can be deployed with Fabric.

Which of the following is a true statement in regards to ledger deployment?

- A. A CouchDB database is closely co-located with a network node and runs in a separate operating system process
- B. A LevelDB database is closely co-located with a network node and runs in a separate operating system process
- C. A CouchDB database is closely co-located with a network node and it is embedded within the same operating system process
- D. A LevelDB database is closely co-located with a network node and it is embedded within the same operating system process

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

A CouchDB database is closely co-located with a network node and it is embedded within the same operating system process.

Reference: <https://hyperledger-fabric.readthedocs.io/en/release-1.3/ledger/ledger.html>

QUESTION 28

Every chaincode has an _____ policy which specifies the set of peers on a channel that must execute chaincode and endorse the execution results in order for the transaction to be considered valid.

- A. Endorsement
- B. Transaction
- C. Validation
- D. Chaincode

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Chaincode has an endorsement policy which specifies the set of peers on a channel that must execute chaincode and endorse the execution results in order for the transaction to be considered valid.

QUESTION 29

Hyperledger can best be described as which of the following?

- A. A Newer Version of Proof of Stake
- B. An IBM owned solution that is a single blockchain
- C. A newer version of Proof of Work
- D. An effort to advance cross-industry blockchain technologies



Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

An effort to advance cross-industry blockchain technologies. Hyperledger is an open source collaborative effort created to advance cross-industry blockchain technologies. It is a global collaboration, hosted by The Linux Foundation, including leaders in finance, banking, IoT, supply chain, manufacturing and technology.

QUESTION 30

In Hyperledger not all Nodes are created equal. What are the three distinct types of nodes? (Select three.)

- A. MSP Nodes
- B. Ordered Nodes
- C. Channel Node

- D. Client Nodes
- E. Peer Nodes
- F. Endorser Node

Correct Answer: BDE

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Client Node: That initiates the transaction 2. Peer Nodes: Commits Transaction & keeps the data in sync across the ledger 3. Ordered: They are the communication backbones and responsible for the distribution of the transactions

QUESTION 31

The Hyperledger Project consists of the following EXCEPT?

- A. Infrastructure
- B. Tools
- C. Framework
- D. Management

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Management is not correct. The Hyperledger Project consists of the following Infrastructure - Ecosystems that accelerate open development and commercial adoption Frameworks – A portfolio of differentiated approaches to business blockchain frameworks developed by a growing community of communities Tools Typically built for one framework, and through common license and community of communities approach, ported to other frameworks hyperledger.org.

QUESTION 32

What is the best description of how Kafka is utilized for consensus approach in Hyperledger Fabric?

- A. Kafka does not support crash tolerance but it does not offer protection against rogue nodes in the network.
- B. Provides Byzantine fault tolerance. Finality happens in a matter of seconds. Scale to petabytes of data, distributed across many clusters.
- C. Provides Byzantine fault tolerance. Finality happens in a matter of seconds.
- D. Permissioned voting based Leader does ordering. Only in-sync replicas can be voted as leader.



Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Kafka essentially is a distributed, horizontally-scalable, fault-tolerant, commit log. The other answers are in correct.

Reference: https://www.hyperledger.org/wp-content/uploads/2017/08/Hyperledger_Arch_WG_Paper_1_Consensus.pdf

QUESTION 33

What is provided by the Hyperledger Fabric to facilitate network communications?

- A. SDK
- B. API
- C. Golang
- D. Java
- E. Middleware

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hyperledger Fabric provides a Node.js and a Java SDK to facilitate network communications functionality.

QUESTION 34

Voting-based algorithms are advantageous in that they provide a benefit but a tradeoff. (Select two.)



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- A. Trade off between scalability and security.
- B. Better security due to node control.
- C. Low-latency finality.
- D. Trade off between scalability and performance.

Correct Answer: CD

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hyperledger makes use of the permissioned voting-based consensus from the pool of other consensus named the lottery-based consensus. (Kafka in Hyperledger Fabric Ordering Service) Voting-based algorithms are advantageous in that they provide low-latency finality. More Nodes = More Time to reach Consensus. Trade off between Scalability and Performance

QUESTION 35

Hyperledger Fabric is a blockchain implementation that is designed for deploying a modular and extensible architecture.

Which of the following is NOT true about the architecture of Hyperledger?

- A. It is modular and extensible
- B. It allows for interoperability
- C. It has a native cryptocurrency token
- D. It has a rich API development capacity

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

It has a modular subsystem design so that different implementations can be plugged in and implemented over time. Modular and extensible means modularity in all components of all frameworks, including:

Consensus layer

Smart contract layer

Communication Layer

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Data Store

Identity services (root of trust, to identify the participants).

QUESTION 36

What function in chaincode will be used to store a state on the blockchain ledger?

- A. ChaincodeStubInterface.getFunctionAndParameters
- B. ChaincodeLedgerInterface.PlaceState
- C. ChaincodeStubInterface.PlaceState
- D. ChaincodeStubInterface.PutState
- E. ChaincodeLedgerInterface.StoreState

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://hyperledger-fabric.readthedocs.io/en/release-1.4/chaincode4ade.html>

QUESTION 37

There are generally two ways to develop business contracts in Hyperledger. (Select two.)

- A. Code individual contracts into standalone instances of chaincode.
- B. Use chaincode to create decentralized applications that manage the life cycle of one or multiple types of business contracts, and let end users instantiate instances of contracts within these applications.
- C. Code multiple contracts into distributed instances of chaincode.
- D. Code individual contracts into distributed instances of chaincode.
- E. Use chaincode to create centralized applications that manage the life cycle of one or multiple types of business contracts, and let end users instantiate instances of contracts within these applications.

Correct Answer: AB

Section: (none)

Explanation

Explanation/Reference:

Explanation:

There are generally two ways to develop business contracts: the first way is to code individual contracts into standalone instances of chaincode; the second way, and probably the more efficient way, is to use chaincode to create decentralized applications that manage the life cycle of one or multiple types of business contracts, and let end users instantiate instances of contracts within these applications

Reference: https://fabric-docs-test.readthedocs.io/en/latest/FAQ/chaincode_FAQ/

QUESTION 38

Chaincode interface must be implemented by every chaincode program.

- A. TRUE
- B. FALSE

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Reference: <https://hyperledger-fabric.readthedocs.io/en/release-1.4/chaincode4ade.html>

QUESTION 39

Which of the following would not be a good use case for Hyperledger Fabric?

- A. Cryptocurrency Exchange
- B. Compliance Ledger
- C. Business Contracts
- D. Asset Exchange

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hyperledger Fabric is an enterprise permissioned blockchain. It does not have a cryptocurrency nor token. It could be a use case to develop chaincode to create an off chain channel to a cryptocurrency exchange but this would not be efficient.

QUESTION 40

Hyperledger is a membership based distributed ledger platform. What determine the level of permissions required to transact for members?

- A. Authentication Services
- B. Validator Services
- C. Identity Management
- D. Audit Services

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hyperledger is a private validator network protocol. All the entities in a network must register with membership services to obtain an identity with access and transaction authority on the network. Validators determine the level of permissions required to transact. The network setup also defines the network as permissive, allowing the ease of access. It supports for rapid and high adoption for a more controlled and restrictive environment.

QUESTION 41

What is the best definition of chaincode with Hyperledger?

- A. Chaincode is a decentralized transactional program, running on the validating nodes.
- B. Chaincode is centralized transactional program, running on the validating nodes.
- C. Chaincode is centralized transactional program, running on the peer nodes.
- D. Chaincode is a decentralized transactional program, running on the peer nodes.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 42

Consensus algorithms are used because _____

- A. They can include specific rules or conditions to be met
- B. They increase the network security from hacking
- C. They prevent blockchain node failure
- D. They increase network speed

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

Reference: <https://medium.com/coinbundle/consensus-algorithms-dfa4f355259d>

QUESTION 43

Which of the following syntaxes will compile the chaincode?

- A. go int
- B. go build
- C. go create
- D. go compile

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

Reference: <https://hyperledger-fabric.readthedocs.io/en/release-1.4/chaincode4ade.html>

QUESTION 44

What is the initial setup of a network which policies, system chaincodes, and cryptographic materials (certs) are disseminated amongst participants are defined to establish trust?

- A. Chaining
- B. Instantiaton
- C. Bootstrapping
- D. Subnetting

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

Explanation:

The application is bootstrapped knowing about a group of peers which are trusted by the application developer/administrator to provide authentic responses to discovery queries. There is the bootstrap of a peer network, during which policies, system chaincodes, and cryptographic materials (certs) are disseminated amongst participants, and the bootstrap of an ordering network. The bootstrap of the ordering network must precede the bootstrap of the peer network, as a peer network is contingent upon the presence of an ordering service. A network need only be “bootstrapped” once.

QUESTION 45

What type of peer endorses and executes a transaction?

- A. Endorsement Peer
- B. Peered Peer
- C. Executing Peer
- D. Endorsing Peer
- E. Peer Node

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

An endorser executes and endorses transactions. The endorsing peers take the role of endorsing transactions before they are ordered and committed as per the policy defined in Chaincode.

QUESTION 46

When designing a client application it is important to note that queries are defined in a query file (.qry).

Where is this .qry file stored?

- A. Parent directory of the business network definition
- B. /tmp directory of the package.json file
- C. Child directory of the package.json file
- D. Child directory of the business network definition
- E. Parent directory of the package.json file

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

QUESTION 47

You are starting to understand the needed package dependencies for chaincode. What are the two required packages? (Select two.)

- A. Init
- B. Peer Protobuf
- C. Shim
- D. Start

Correct Answer: BC

Section: (none)

Explanation

Explanation/Reference:

QUESTION 48

Smart contracts are created by computer programmers through the help of smart contract development tools and are entirely digital. These programs are usually written using programming code languages.

Which of the following languages would not be ideal for use in smart contracts?

- A. Python
- B. Assembler
- C. C++
- D. Go
- E. Java

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Assembler languages are not web or html friendly nor high level.

QUESTION 49

The Membership Services Provider provides identity, privacy, and confidentiality to the network and also by default issues two types of certificates.

What are the certificate types? (Select two.)

- A. Does not issue certificates by default
- B. pcert
- C. tcert
- D. scert
- E. ecert

Correct Answer: CE

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Membership services provide identity, privacy, and confidentiality to the network. Abstraction of an architecture for membership operations.

QUESTION 50

Which Hyperledger Fabric ordering mechanism is recommended for production use?

- A. BFT
- B. Kafka
- C. SBFT
- D. SOLO

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Kafka is the Hyperledger Fabric ordering mechanism that is recommended for production use. This ordering mechanism utilizes Apache Kafka, an open source stream processing platform that provides a unified, high-throughput, low-latency platform for handling real-time data feeds.

QUESTION 51

The business network definitions are packaged into what file?

- A. .cto
- B. .acl
- C. .bnd
- D. .bna

Correct Answer: D

Section: (none)

Explanation

Explanation/Reference:

Explanation:

.bna is also known as a "banana" file in the hyperledger world. Before a business network definition can be deployed it must be packaged into a Business Network Archive (.bna) file. The composer archive create command is used to create a business network archive file from a business network definition folder on disk.

QUESTION 52

What is a transaction request sent from a client or admin user to one or more peers in a network?

- A. Chaincode
- B. Proposal
- C. Update
- D. RPC



Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Proposal is A transaction request sent from a client or admin user to one or more peers in a network; examples include deploy, invoke, query, or configuration request. <https://fabrictestdocs.readthedocs.io/en/latest/glossary.html>

QUESTION 53

In Hyperledger Composer resources are declared which three ways? (Choose three.)

- A. Assets, orderers, transactions, and events
- B. Concepts
- C. Assets, participants, transactions, end events

- D. Collections
- E. Non Enumerated types
- F. Enumerated types

Correct Answer: BCF

Section: (none)

Explanation

Explanation/Reference:

QUESTION 54

What Hyperledger tool is a blockchain benchmark tool that allows users to measure performance of a specific implementation with predefined use cases?

- A. Cello
- B. Explorer
- C. Caliper
- D. Composer
- E. Quilt

Correct Answer: C

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Hyperledger Caliper: A blockchain benchmark tool that allows users to measure performance of a specific implementation with predefined use cases Its in Alpha mode at time of writing. Contributed by developers from numerous organizations. Reference: <https://github.com/hyperledger/caliper>

QUESTION 55

Composer Modeling Language is an object-oriented modeling language that defines the domain model for a business network definition. Essentially this is saved as a .cto file.

Which of the following is NOT a characteristics of a .cto file?

- A. It represents a set of resource definitions that includes assets, transactions, participants, ana events.
- B. Values may not be assigned to any field variable.



- C. The modeling language does not support multiple inheritance.
- D. It is a single namespace in which all resource declarations are implicitly defined.
- E. When using Hyperledger Composer modeling language structure words “asset” and “participant” are reserved.

Correct Answer: B

Section: (none)

Explanation

Explanation/Reference:

Explanation:

Values can be assigned to any field variable A CTO file consists of:

- A single namespace, in which all resource declarations are implicitly.
- The overall “model” defines the representation of assets.
- A set of resource definitions that includes assets, transactions, participants, and events.
- Values may be assigned to any field variable.
- The option to import resources from other namespaces.
- When using composer modeling language, the words “asset” and “participant” are reserved. • Asset ownership instance is defined in a relationship field. (symbol: o) • The modeling language does not support multiple inheritance.



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