upGrad

Interview Questions:
Application Development on Hyperledger

Q1	How to query the ledger data?
Ans	In order to query the world state from smart-contract, the ctx.stub.getState() method is used. Further, to query the blockchain, the fabric-node-sdk library is used.

Q2	How can the historical data be queried to understand data provenance?
Reference	https://hyperledger.github.io/fabric-chaincode-node/master/api/fabric-shim.ChaincodeStub.html#getHistoryForKey__anchor
Ans	The getHistoryForKey() is used to gain data provenance.

Q3	What is provenance?
Ans	Provenance in Hyperledger is the history of data change over its lifetime.

Q4	How to guarantee whether the query result is correct or not, especially when the peer being queried may be recovering and catching up on the block processing?
Ans	The client can query multiple peers, compare their block heights and their query results, and favour the peers at the higher block heights.

Q5	I have an ordering service that is up and running and want to switch to consensus algorithms. How do I do that?

Reference	https://hyperledger-fabric.readthedocs.io/en/release-1.4/Fabric-FAQ.html
Ans	This is not possible.

Q6	How to build a distributed and decentralised identity by using hyper ledger?
Ans	By using Hyperledger Indy, a distributed and decentralised identity can be built.

Q7	How do application clients know the outcome of a transaction?
Reference	https://hyperledger-fabric.readthedocs.io/en/release-1.4/Fabric-FAQ.html
Ans	The transaction simulation results are returned to the client by the endorser in the proposal response. If there are multiple endorsers, the client can check if the responses are all the same, and submit the results and endorsements for ordering and commitment. Ultimately, the committing peers will validate or invalidate the transaction, and the client becomes aware of the outcome via an event that the SDK makes available to the application client.

Q8	What are the key functional differences between Hyperledger Composer and Fabric Javascript SDK?
Ans	- Developing the **Blockchain** application with the help **of Hyperledger Composer** is much easier and faster. **Hyperledger Composer** is built on top **of** the **Hyperledger Fabric** network by utilising its main components through connection files. - Javascript SDK is used to connect to Hyperledger network.

Q9	How to subscribe to events and listen in sawtooth Hyperledger by using Javascript-SDK?
Ans	It can be done by using the same API based services in JavaScript.

Q10	What is the major module of node JS Fabric SDK and their functions?
Reference	https://hyperledger.github.io/fabric-sdk-node/release-1.4/index.html
Ans	The details of the Fabric SDK is given in the reference link above.

Q11	Provide the key methods in fabric-ca-client.
Reference	https://github.com/hyperledger/fabric-sdk-node/tree/master/fabric-ca-client
Ans	The key methods and the code of the methods is given in the github reference link above.

Q12	What is the use of a file system wallet?
Reference	https://hyperledger.github.io/fabric-sdk-node/release-1.4/module-fabric-network.Wallet.html
Ans	Wallet defines the interface for storing and managing users' identities in a fabric network. This is an abstract base class and must be extended.