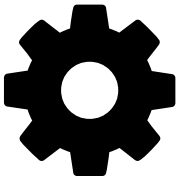




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## Corda Developer Certification

### Progress Overview










Started November 14, 2019 2:57pm  
Completed November 14, 2019 7:47pm








### Score Overview

Score 86.60%  
Number Correct 97 / 112





### Report Card

	Question	Given Answer	Correct Answer	Grade By:
	When is a notary NOT required to notarize a transaction?	When the transaction has no input states and no timewindow	When the transaction has no input states and no timewindow	No Grader
	Which parts of a transaction does a non-validating notary see when signing a transaction?	The input state references, the TimeWindow, and the transaction's notary	The input state references, the TimeWindow, and the transaction's notary	No Grader
	Each node receives the evidence of all of the historical transaction history during verification.	True	True	No Grader
	How does Corda ensure each output state is only consumed once?	Each Notary maintains a list of state refs that have already been consumed.	Each Notary maintains a list of state refs that have already been consumed.	No Grader
	Which of the following types of verification must go in the flow?	Checking that the signatures on the Transaction are valid.	Checking that the signatures on the Transaction are valid.	No Grader
	Transactions can have inputs states that are assigned to different Notaries.	False	False	No Grader
	Which Notary(s) have to sign when reassigning States with the NotaryChangeFlow?	Original Notary	Original Notary	No Grader









	Question	Given Answer	Correct Answer	Grade By:
	Every state has an appointed notary cluster, and a notary cluster will only notarize a transaction if it holds the notarization of the transactions whose output states are the input to the current transaction.	True	True	No Grader
	For every transaction, the entire historical chain must be walked backward and re-verified in order to validate a transaction.	True	False	No Grader
	How many notary clusters can co-exist on the same network?	Many notary clusters	Many notary clusters	No Grader
	The private key of a "Confidential identity" is never revealed to any other parties in the network.	False	False	No Grader
	What information is not included inside networkMap for the nodes on the network?	The number of adjacent nodes that outside the current network.	The number of adjacent nodes that outside the current network.	No Grader
	How many Java-style Keystores does a Node need to successfully run in a bootstrap network?	Three	Three	No Grader
	Which Java-style Keystore stores the node's TLS key pair and certificate?	sslkeystore.jks	sslkeystore.jks	No Grader
	How is information shared in Corda?	On a peer-to-peer basis	On a peer-to-peer basis	No Grader
	Any participant can join Corda network as long as they get accepted by the majority of the members.	False	False	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	Which of the following services is not required to run a Corda network?	Regulator Node	Regulator Node	No Grader
	What service controls admission to a Corda network?	The certificate authority	The doorman	No Grader
	The primary reason for bundling all flows, contracts, and states into the same CorDapp is that it makes it easier to distribute the CorDapp to other parties.	False	False	No Grader
	Which of the following about the serialization whitelist in Corda is true?	Classes can be serialized by whitelisting them in Corda by implementing the SerialisationWhitelist interface	Classes can be serialized by whitelisting them in Corda by implementing the SerialisationWhitelist interface	No Grader
	Which of the following about serialization in Corda is true?	Third party classes have to be explicitly added to the serialization whitelist in order to be sent over the network	Third party classes have to be explicitly added to the serialization whitelist in order to be sent over the network	No Grader
	What annotation marks a class as being eligible to be sent and received between nodes as part of a flow?	CordaSerializable	CordaSerializable	No Grader
	Which method exchanges the Confidential Identity between different parties.	SwapIdentitiesFlow	SwapIdentitiesFlow	No Grader
	What is used to encrypt communications between nodes?	TLS	TLS	No Grader
	A node can have multiple Cordapp running at the same time.	True	True	No Grader





	Question	Given Answer	Correct Answer	Grade By:
	How is a CorDapp installed on a node?	By placing it in the node's CorDapps folder	By placing it in the node's CorDapps folder	No Grader
	What is the suggested minimum host RAM and JVM Heap size for hosting a Node?	2GB & 1GB	2GB & 1GB	No Grader
	Which of the following attributes cannot be used for Node identity?	Continent	Continent	No Grader
	In Corda, user-facing client and external integration into the node is done via _____?	CordaRPCClient	CordaRPCClient	No Grader
	Corda Nodes run in a JVM.	True	True	No Grader
	When a node sees a Transaction, which objects does it store in its vault?	All States	Only the visible States	No Grader
	Where does each node store their states?	Vault	Vault	No Grader
	Which of the following statements about Corda data backup is true?	Data does need to be backed up: each participant must back up their own data.	Data does need to be backed up: each participant must back up their own data.	No Grader
	From the above code block: which participants will store the state after it gets committed to the ledger?	partyA	partyA	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	What does a State in Corda represent?	A fact known by one or more parties	A fact known by one or more parties	No Grader
	States must be shared between at least two participants.	False	False	No Grader
	How does Corda allow for event scheduling?	State classes may request flows to be started at given times	State classes may request flows to be started at given times	No Grader
	All FungibleAsset are issued by a single party, and these things can be split and merged.	True	False	No Grader
	What field(s) does the LinearState interface define?	linearId	linearId	No Grader
	When you want to create a state pointer for any OwnableState, it is required to use LinearPointer class because you can only have one owner for this state.	True	True	No Grader
	What type of on-ledger facts should be represented using OwnableState?	Fungible asset, owned by a single party, which can be split and merged with other states of the same type.	Fungible asset, owned by a single party, which can be split and merged with other states of the same type.	No Grader
	Why would you define a field in a state as having the type AbstractParty instead of the type Party?	Because you want the field to possibly contain an anonymous identity	Because you want the field to possibly contain an anonymous identity	No Grader
	How is the vault represented inside a database server?	Database	Table	No Grader




	Question	Given Answer	Correct Answer	Graded By:
	What are the ways to obtain a ReferencedStateAndRef?	Calling StateAndRef.referenced()	Calling StateAndRef.referenced()	No Grader
	When Reference States are called in a transaction, the reference states' contract will automatically execute as part of the transaction verification process.	False	False	No Grader
	Reference states that are used in the transaction will be stored in the vault.	True	True	No Grader
	What can be the possible use-cases of reference state?	All of above	All of above	No Grader
	Which of the following is FALSE about reference State?	Is consumed when the transaction containing it is committed to the ledger	Is consumed when the transaction containing it is committed to the ledger	No Grader
	Corda contracts code are included in transactions' attachments in Corda.	True	True	No Grader
	What does a Contract.verify method return?	Void/Unit	Void/Unit	No Grader
	What is the default contract constraints that TransactionBuilder uses if the Cordapp was signed when built?	Signature Accept Contract Constraint	Signature Accept Contract Constraint	No Grader
	With ContractUpgradeFlow(), it is possible to transmute a Cat state into a Dog state, provided that all participants in the Cat state agree to the change.	True	True	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	What does a Contract in Corda represent?	The sets of constraints that govern the evolution of state objects.	The sets of constraints that govern the evolution of state objects.	No Grader
	How does a transaction uniquely identify the contracts to use to verify a transaction?	Hash of the JAR file containing the contract and the fully qualified contract class name.	Hash of the JAR file containing the contract and the fully qualified contract class name.	No Grader
	Why must contracts be evaluated in a deterministic sandbox?	To protect against non-determinism in the evaluation of whether the transaction is valid or not	To protect against non-determinism in the evaluation of whether the transaction is valid or not	No Grader
	What does Corda contract verify?	All of above	All of above	No Grader
	What are the ways to achieve Corda contract upgrade?	All of above	All of above	No Grader
	Counterparty node operator should always check the contents of a transaction before signing it, even if the transaction is contractually valid, to see whether they agree with the proposed ledger update.	True	True	No Grader
	What information does a command include?	An indicator on the intent of the Transaction and a list of public keys required to sign the transaction.	An indicator on the intent of the Transaction and a list of public keys required to sign the transaction.	No Grader
	Commands are optional in Corda transactions.	False	False	No Grader
	How are the required signers of a transaction decided?	Based on the signers listed on the commands	Based on the signers listed on the commands	No Grader






	Question	Given Answer	Correct Answer	Grade By:
	A command always has one or more signer(s).	False	True	No Grader
	Which method and where are the required signers added to the command?	<ul style="list-style-type: none"> <li>• Command constructors inside the Contract class where the different command classes are created</li> <li>• addCommand method inside a flow class where transaction is built.</li> </ul>	<ul style="list-style-type: none"> <li>• Command constructors inside the Contract class where the different command classes are created</li> <li>• addCommand method inside a flow class where transaction is built.</li> </ul>	No Grader
	I can open multiple sessions with the same party within the same flow context.	False	False	No Grader
	The Party which initiates a Flow is responsible for creating the output States that are the proposed changes to the ledger.	True	False	No Grader
	TransactionBuilder should be used in which of the Corda Class?	Flow	Flow	No Grader
	What annotation is used to specify which initiator flow a response flow responds to?	InitiatedBy	InitiatedBy	No Grader
	How is a state's notary changed once the state has been issued?	Any node can initiate a states's notary using the NotaryChangeFlow	Any node can initiate a states's notary using the NotaryChangeFlow	No Grader
	What happens if your node receives a message from a flow for which it has not registered a response flow?	It ignores the message	It ignores the message	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	What steps need to be taken to preserve flows across a node reboot?	Annotate checkpoint locations for Corda to serialize and persist the flow to disk.	None, each flow is automatically serialized and persisted to disk to be eventually finished.	No Grader
	How long can flows remain in a suspended state?	Indefinitely	Indefinitely	No Grader
	Contract verify is the only code that runs when verifying a transaction.	True	True	No Grader
	What is the purpose of filtering a transaction?	To provide advanced privacy by hiding certain components of the transaction from users who do not need to see them	To provide advanced privacy by hiding certain components of the transaction from users who do not need to see them	No Grader
	When signing a transaction, what is the actual data structure being signed?	The root hash of the transaction's Merkle tree	The root hash of the transaction's Merkle tree	No Grader
	Who can propose a transaction in Corda?	Any Party on the network.	Any Party on the network.	No Grader
	What objects are needed to build a FilteredTransaction?	Both of the above combinations will work	A WireTransaction & filtering rules	No Grader
	How are attachments included in a SignedTransaction?	The attachment's hash is included in the transaction	The attachment's hash is included in the transaction	No Grader
	How are states and contracts linked together in a transaction?	Each state class is paired with a given contract class, and each instance uses that contract	Each state is linked to a contract using a TransactionState	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	How many notaries can a transaction have?	One	One	No Grader
	At which point(s) is a Transaction verifiable?	Within it is a TransactionBuilder.	All the above.	No Grader
	At what point does a Transaction become immutable?	After it has one or more digital signatures, and becomes a SignedTransaction.	After it has one or more digital signatures, and becomes a SignedTransaction.	No Grader
	Attachments are intended to be reused across transactions	True	True	No Grader
	What format are attachments stored in?	JAR files	JAR files	No Grader
	When a node sees an attachment how does it resolve the attachment?	By retrieving the attachment from its own storage or requests it from the counterparty.	By retrieving the attachment from its own storage or requests it from the counterparty.	No Grader
	In what file format are the attachments presented inside a transaction?	Hashes of the original files	Hashes of the original files	No Grader
	How does the receiver Node download the physical attachments from the sender Node?	Download the physical files via RPC client calls	Download the physical files via RPC client calls	No Grader
	Attachment metadata can be queried in a similar way to the vault.	True	True	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	What service does an Oracle provide to a Corda Network?	Provides data external to the ledger into a Transaction and signs the Transaction.	Provides data external to the ledger into a Transaction and signs the Transaction.	No Grader
	What type of information might an oracle provide to a transaction?	All of the above.	All of the above.	No Grader
	Oracle services can be used both when proposing and when verifying transactions.	True	True	No Grader
	Time may be specified for which of the following ranges:	All of the above	All of the above	No Grader
	How can a contract ensure that a transaction is only valid if it is fully signed before time X?	By adding a TimeWindow to the Transaction and getting the Notary to sign the Transaction within that TimeWindow.	By adding a TimeWindow to the Transaction and getting the Notary to sign the Transaction within that TimeWindow.	No Grader
	Where is the default transaction size stored at?	Network Parameter file	Network Parameter file	No Grader
	If a bilateral flow is kicked off between two parties, first checkpointed by Party A and then by Party B, do those flows share an Id? e.g. - if I search through the checkpoints on both nodes, will I be able to match them?	No, The id of the checkpoint is based on the id of the FlowStateMachine. This state machine is not shared between the two nodes	No, The id of the checkpoint is based on the id of the FlowStateMachine. This state machine is not shared between the two nodes	No Grader
	What are the key storetypes that Corda accept? (Multi-select)	<ul style="list-style-type: none"> <li>• TLS</li> <li>• Jks</li> </ul>	<ul style="list-style-type: none"> <li>• Pkcs12</li> <li>• Jks</li> </ul>	No Grader
	Assuming you are upgrading your node from the older version to the latest version of Corda, what is the first command that you are running?	gracefulShutdown	gracefulShutdown	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	Which method within this application actually handles the exclusion of blacklisted entities?	verify() in the AgreementContract .kt	verify() in the AgreementContract .kt	No Grader
	What does the checkTransaction() method do in the AgreeFlow?	Check if the received transaction has an output AgreementState.	Check if the received transaction has an output AgreementState.	No Grader
	Which of the following objects should get passed into the blank space to complete the initial transaction signing?	txBuilder, the transaction builder that carries all of the information about the transaction	txBuilder, the transaction builder that carries all of the information about the transaction	No Grader
	Who is making the initial signing of the transaction?	Whoever is initiating the transaction, "me" in this case	Whoever is initiating the transaction, "me" in this case	No Grader
	What is the possible return type of this method? <pre> output = stx.getTx().getOutputs().get(0).getData(); </pre>	ContractState	ContractState	No Grader
	How does testing code work in the test folder?	It will start a mock network and run the unit tests to test out the different parts of the application	It will start a mock network and run the unit tests to test out the different parts of the application	No Grader
	What does the following code return? val confidentialIdentities = subFlow(SwapIdentitiesFlow(counterpartySession, GENERATE_CONFIDENTIAL_IDS.childProgressTracker()))	A LinkedHashMap of <Party, AnonymousParty> pair	A LinkedHashMap of <Party, AnonymousParty> pair	No Grader
	Which methods are being used to achieve the observable feature in this sample?	Both A and B	N/A	No Grader
	When distributing states to the observer manually using helper flow, which method actually handles the writing to the ledger?	recordTransaction	recordTransaction	No Grader

	Question	Given Answer	Correct Answer	Grade By:
	Which class does HeartState implement?	SchedulableState	SchedulableState	No Grader
	In this heartbeat sample, there is no notary running because there is no transaction going on between parties.	True	False	No Grader
	What is the return value when you initiate a proposal using ProposalFlow?	The Linear ID of the proposal state that was used as the input state of the transaction	The Linear ID of the output state that was generated from the transaction	No Grader
	What is the ID attached in the output of the transaction when the counterparty runs ModificationFlow?	The same Linear ID that was used in the input state.	The same Linear ID that was used in the input state.	No Grader
	In AcceptanceFlow, what is the output of the transaction?	A TradeState that can only be generated during the AcceptanceFlow.	A TradeState that can only be generated during the AcceptanceFlow.	No Grader
	What are the restrictions/rules that are coded in the AcceptanceFlow's responder flow?	Only the proposee can accept a proposal	Only the proposee can accept a proposal	No Grader
	Consider a business that requires running the following flows once and in order: ProposalFlow -> ModificationFlow -> AcceptanceFlow. Which state will get recorded into the Corda vault?	A single TradeState	A single TradeState	No Grader
	How would you rate your overall experience with Corda Developer Certification?	No answer was given	N/A	No Grader
	If you didn't pass the exam at this time do you plan on taking it again?	No answer was given	N/A	No Grader

Question	Given Answer	Correct Answer	Grade By:
What was the most challenging aspect(s) of the certification exam?	No answer was given	N/A	No Grader
What aspect(s) of certification were not clear?	No answer was given	N/A	No Grader
Any other feedback that you'd like to give the R3 team?	No answer was given	N/A	No Grader