CORDA CHEAT SHEET

Useful links:
Documentation: docs.corda.net
Slack: slack.corda.net
Stack Overflow: stackoverflow.com/questions/tagged/corda

RUNNING CORDA

a. Set up your dev environment

https://docs.corda.net/getting-set-up.html

b. Clone the template app

```
git clone https://github.com/corda/cordapp-template-kotlin
```

c. Check out the latest milestone (e.g. M14)

```
cd cordapp-template-kotlin && git checkout release-M14
```

d. Deploy the nodes

```
./gradlew clean deployNodes
```

e. Run the nodes

```
Unix: sh build/nodes/runnodes
Windows: call build/nodes/runnodes.bat
```

STATES

`ContractState`

The base class for on-ledger states

`.contract`

The `Contract` governing this state's evolution

`.participants`

The parties able to consume this state

`LinearState (extends ContractState)`

State representing a 'shared fact' evolving over time

`.linearId`

An ID shared by all evolutions of the 'shared fact'

`.isRelevant(Set<PublicKey>)`

Should our vault track this state?

`OwnableState (extends ContractState)`

State representing fungible assets (cash, oil…)

`.owner`

The state's current owner

CONTRACTS

`Contract`

Establishes which transactions are valid for a given state

`.verify(LedgerTransaction)`

Throws an exception if the transaction is invalid

`.legalContractReference`

A hash of the contract's legal prose

TRANSACTIONS

`TransactionBuilder`

A mutable container for building a general transaction

`.withItems(vararg Any)`

Adds items (states, commands…) to the builder

`ServiceHub.signInitialTransaction(TransactionBuilder)`

Converts the builder to a signed transaction

TRANSACTIONS (CONT.)

`SignedTransaction`

A wire transaction, plus associated digital signatures

`.verifyRequiredSignatures()`

Verify all the transaction's required signatures

`.verifySignaturesExcept(vararg List<PublicKey>)`

Verify all the transaction's required signatures except those listed

`.verify()`

Verify the transaction

`.toLedgerTransaction(ServiceHub)`

Resolve transaction into a LedgerTransaction for extra verification

`ServiceHub.addSignature(SignedTransaction)`

Add a digital signature to the transaction

FLOWS

`FlowLogic`

The actions executed by one side of a flow

`.send(Party, Any)/receive(Party)/sendAndReceive(Party, Any)`

Sends data to/receives data from the specified counterparty

`.subFlow(FlowLogic<R>, Boolean)`

Invokes a sub-flow that may return a result

`.serviceHub`

Provides access to the node's services

FLOW ANNOTATIONS

`@InitiatingFlow`

A flow that is started directly

`@InitiatedBy(KClass)`

A flow that is only started by a message from an `InitiatingFlow`

`@StartableByRPC`

Allows the flow to be started via RPC by the node's owner

SERVICE HUB

`.networkMapCache`

Provides info on other nodes on the network (e.g. notaries…)

`.vaultService`

Stores the node's current and historic states

`.storageService`

Stores additional info such as transactions and attachments

`.keyManagementService`

Manages the node's digital signing keys

`.myInfo`

Other information about the node

`.clock`

Provides access to the node's internal time and date

`.schedulerService`

PROVIDING AN API

a. Subclass `CordaPluginRegistry`

```
class MyWebPlugin : WebServerPluginRegistry() {…}
```

b. Override `webApis`

```
override val webApis = listOf(Function(::MyApi))
```

c. Register the fully qualified class name of the plugin

…under src/main/resources/META-INF/services/WebPluginRegistry