



# CORDA CHEAT SHEET

## Useful links:

Website: [corda.net](https://corda.net)  
GitHub org.: [github.com/corda](https://github.com/corda)  
Documentation: [docs.corda.net](https://docs.corda.net)  
Slack: [slack.corda.net](https://slack.corda.net)  
Stack Overflow: [stackoverflow.com/questions/tagged/corda](https://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 in Kotlin or Java

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

c. Check out the latest version (e.g. V2)

```
cd cordapp-template-kotlin && git checkout release-V2
```

d. Deploy the nodes

```
./gradlew clean deployNodes
```

e. Run the nodes

```
Unix: sh kotlin-source/build/nodes/runnodes
```

```
Windows: call kotlin-source/build/nodes/runnodes.bat
```

## STATES

### ContractState

The base class for on-ledger states

#### .participants

The parties for which this state is relevant

### LinearState (extends ContractState)

State representing a 'shared fact' evolving over time

#### .linearId

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

### OwnableState (extends ContractState)

State representing fungible assets (cash, oil...)

#### .owner

The state's current owner

#### .withNewOwner(AbstractParty)

Creates a copy of the state with a new owner

## CONTRACTS

### Contract

Establishes which transactions are valid for a given state

#### .verify(LedgerTransaction)

Throws an exception if the transaction is invalid

## 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

An immutable transaction plus its 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(ServiceHub, boolean)

Verify the transaction

#### .toLedgerTransaction(ServiceHub, boolean)

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

#### .initiateFlow(Party)

Initiates communication between two flows

#### FlowSession.send(Party, Any)/FlowSession.receive(Party)

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

#### .validatedTransactions

Stores all the transactions seen by the node

#### .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

## PROVIDING AN API

a. Subclass WebServerPluginRegistry

```
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