Project Ubin Phase 2 - Corda APIs

This is the API blueprint for Project Ubin Phase 2 Corda prototype.

Please refer to the project repositories on GitHub to get the postman collections for this set of APIs.

Bank

ALL BANK BALANCES

GET `/api/bank/balance/all`   Get account info for all banks

Returns a list of account information of all banks in the network. Can only be called by Regulator Node

Example URI

GET www.corda.net/api/bank/balance/all

Response `200`

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "bic": "MTBCSGSG",
    "balance": 912
  },
  {
    "bic": "CSFBSGSX",
    "balance": 912
  },
  {
    "bic": "OCBCSGSG",
    "balance": 912
  },
  {
    "bic": "SCBLSGSG",
    "balance": 912
  }
]
```

BANK INFO

GET `/api/bank/info`   Get account info for self

Returns overall balance of the bank.

Example URI

GET www.corda.net/api/bank/info

Response `200`

Headers

```
Content-Type: application/json
```

Body

```
{
  "X500Name": "CN=CHASSGSG,O=CHASSGSG,L=Singapore,C=Singapore",
  "bic": "CHASSGSG",
  "balance": 3000,
  "position": -2092
}
```

BANK COUNTERPARTIES

GET `/api/bank/counterparties`   Get list of valid counter parties

Returns a list of all counterparties in the network and their respective channel with the caller.

Example URI

GET www.corda.net/api/bank/counterparties

Response `200`

Headers

```
Content-Type: application/json
```

Body

```
[
```

```
    {
      "bic": "MTBCSGSG",
      "x500Name": "O=MTBCSGSG,L=Singapore,C=Singapore"
    },
    {
      "bic": "CSFBSGSX",
      "x500Name": "O=CSFBSGSX,L=Singapore,C=Singapore"
    },
    {
      "bic": "OCBCSGSG",
      "x500Name": "O=OCBCSGSG,L=Singapore,C=Singapore"
    },
    {
      "bic": "SCBLSGSG",
      "x500Name": "O=SCBLSGSG,L=Singapore,C=Singapore"
    }
  ]
```

TRANSACTION HISTORY

GET	/api/bank/transactions/{transType}	Get transaction history

Returns the completed transaction history of the bank. The API accepts retrieval of specific transaction type: - pledge - redeem - payment

Example URI

GET www.corda.net/api/bank/transactions/transType

URI Parameters

Response 200

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transType": "pledge",
    "transId": "298587440E7935B0E6DC5B41E87819F598C53D5E94C736F28C
    "requestedDate": "2017-09-27T19:15:31.276Z",
    "updatedDate": "2017-09-27T19:15:31.276Z",
    "sender": "CSFBSGSX",
    "receiver": "MTBCSGSG",
    "transactionAmount": 999999,
    "status": "SETTLED"
  },
```

```
    {
        "transType": "transfer",
        "transId": "298587440E7935B0E6DC5B41E87819F598C53D5E94C736F28C
        "requestedDate": "2017-09-27T18:15:31.276Z",
        "updatedDate": "2017-09-27T19:16:31.276Z",
        "sender": "CSFBSGSX",
        "receiver": "MTBCSGSG",
        "transactionAmount": 300500,
        "status": "SETTLED"
    },
    {
        "transType": "transfer",
        "transId": "298587440E7935B0E6DC5B41E87819F598C53D5E94C736F28C
        "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
        "requestedDate": "2017-09-27T18:14:31.276Z",
        "updatedDate": "2017-09-27T19:08:31.276Z",
        "sender": "CSFBSGSX",
        "receiver": "MTBCSGSG",
        "transactionAmount": 1000000,
        "status": "CANCELLED"
    },
    {
        "transType": "redeem",
        "transId": "298587440E7935B0E6DC5B41E87819F598C53D5E94C736F28C
        "requestedDate": "2017-09-27T19:04:31.276Z",
        "updatedDate": "2017-09-27T19:34:31.276Z",
        "sender": "CSFBSGSX",
        "receiver": "MTBCSGSG",
        "transactionAmount": 30,
        "status": "SETTLED"
    }
]
```

Fund

PLEDGE

| POST | `/api/fund/pledge` | Request to pledge funds |

Pledge funds to a particular bank account in DLT

Example URI

POST www.corda.net/api/fund/pledge

Request

Headers

```
Content-Type: application/json
```

Body

```
{
  "receiver": "CHASSGSG",
  "transactionAmount": 99
}
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
{
  "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE044B
  "sender": "MASGSGSG",
  "receiver": "CHASSGSG",
  "transactionAmount": 99
}
```

REDEEM

GET	/api/fund/redeems	Get Redeem Request

Returns list of redeem request from bank in the network. only able to be invoked from Central Bank.

Example URI

GET www.corda.net/api/fund/redeems

Response `200`

Headers

```
Content-Type: application/json
```

Body

```
[
  {
        "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74
        "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
        "requestedDate": "2017-09-27T19:15:31.276Z"
        "updatedDate" : "2017-09-27T19:15:31.276Z",
        "sender": "MTBCSGSG",
        "receiver": "MASGSGSG",
        "transactionAmount": 190.00
  }
]
```

REDEEM

POST `/api/fund/redeem`   Request to redeem funds

Redeem funds from a particular DLT account.

Example URI

POST www.corda.net/api/fund/redeem

Request

Headers

```
Content-Type: application/json
```

Body

```
{
   "transactionAmount": 99
}
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
{
   "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE044B
   "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
   "sender": "CHASSGSG",
```

```
      "receiver": "MASGSGSG",
      "transactionAmount": 99
    }
```

| PUT | /api/fund/redeem | Approve Redeem |

API for central bank to approve redeem money from DLT bank account.

Example URI

PUT www.corda.net/api/fund/redeem

Request

Headers

```
Content-Type: application/json
```

Body

```
{
   "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE044B
}
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
{
  "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE044B
  "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
  "sender": "MASGSGSG",
  "receiver": "CHASSGSG",
  "transactionAmount": 99
}
```

TRANSFER

| POST | /api/fund/transfer | Create a new payment instruction |

Create a new payment instruction to the other bank in the network

Example URI

POST www.corda.net/api/fund/transfer

Request

Headers

```
Content-Type: application/json
```

Body

```
{
   "priority": 1,
   "receiver": "OCBCSGSG",
   "transactionAmount": 200
}
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
{
    "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
    "sender": "CHASSGSG",
    "receiver": "CSFBSGSX",
    "transactionAmount": 50.00,
    "priority": 0,
    "status": "SETTLED"
}

{
    "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
    "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
    "sender": "CHASSGSG",
    "receiver": "CSFBSGSX",
    "transactionAmount": 50.00,
    "status": "ACTIVE",
    "priority": 1
}
```

Queue

QUEUE ALL

GET	`/api/queue`	Get All Payments

Get all current incoming/outgoing payments in the queue

Example URI

GET www.corda.net/api/queue

Response 200

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE04
    "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
    "requestedDate": "2017-09-27T09:15:31.276Z",
    "updatedDate": "2017-09-27T09:16:31.276Z",
    "sender": "MTBCSGSG",
    "receiver": "SCBLSGSG",
    "transactionAmount": 800500,
    "priority": 0,
    "status": "ACTIVE"
  },
  {
    "transId": "E74CE044B4363BA3434F10963EED85B0241E8006C5711DF39B
    "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
    "requestedDate": "2017-09-27T12:15:31.276Z",
    "updatedDate": "2017-09-27T13:16:31.276Z",
    "sender": "MTBCSGSG",
    "receiver": "CHASSGSG",
    "transactionAmount": 1000000,
    "priority": 1,
    "status": "ACTIVE"
  },
  {
    "transId": "C5711DF39B3434F10963EED85B0241E800680243F1BE74CE04
    "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
    "requestedDate": "2017-09-27T16:15:31.276Z",
```

```
      "updatedDate": "2017-09-27T16:16:31.276Z",
      "sender": "MTBCSGSG",
      "receiver": "CHASSGSG",
      "transactionAmount": 190,
      "priority": 0,
      "status": "ACTIVE"
    },
    {
      "transId": "41E8006C573434F10963EED85B0211DF39B80243F1BE74CE04
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T16:15:31.276Z",
      "updatedDate": "2017-09-27T16:16:31.276Z",
      "sender": "MTBCSGSG",
      "receiver": "OCBCSGSG",
      "transactionAmount": 530200,
      "priority": 0,
      "status": "HOLD"
    },
    {
      "transId": "41E8006C573434F10963EED85B0211DF39B80243F1BE74CE04
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T16:15:32.276Z",
      "updatedDate": "2017-09-27T16:16:32.276Z",
      "sender": "MTBCSGSG",
      "receiver": "CSFBSGSX",
      "transactionAmount": 65000,
      "priority": 0,
      "status": "ACTIVE"
    }
  ]
```

QUEUE OUT

GET `/api/queue/out`   Get Outgoing Payments

Get all outgoing payments in the queue.

Example URI

GET www.corda.net/api/queue/out

Response 200

Headers

```
  Content-Type: application/json
```

Body

```
  [
    {
```

```json
      "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE04
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T09:15:31.276Z",
      "updatedDate": "2017-09-27T09:16:31.276Z",
      "sender": "MTBCSGSG",
      "receiver": "SCBLSGSG",
      "transactionAmount": 800500,
      "priority": 0,
      "status": "ACTIVE"
    },
    {
      "transId": "E74CE044B4363BA3434F10963EED85B0241E8006C5711DF39B
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T12:15:31.276Z",
      "updatedDate": "2017-09-27T13:16:31.276Z",
      "sender": "MTBCSGSG",
      "receiver": "CHASSGSG",
      "transactionAmount": 1000000,
      "priority": 1,
      "status": "ACTIVE"
    },
    {
      "transId": "C5711DF39B3434F10963EED85B0241E800680243F1BE74CE04
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T16:15:31.276Z",
      "updatedDate": "2017-09-27T16:16:31.276Z",
      "sender": "MTBCSGSG",
      "receiver": "CHASSGSG",
      "transactionAmount": 190,
      "priority": 0,
      "status": "ACTIVE"
    },
    {
      "transId": "41E8006C573434F10963EED85B0211DF39B80243F1BE74CE04
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T16:15:31.276Z",
      "updatedDate": "2017-09-27T16:16:31.276Z",
      "sender": "MTBCSGSG",
      "receiver": "OCBCSGSG",
      "transactionAmount": 530200,
      "priority": 0,
      "status": "HOLD"
    },
    {
      "transId": "41E8006C573434F10963EED85B0211DF39B80243F1BE74CE04
      "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
      "requestedDate": "2017-09-27T16:15:32.276Z",
      "updatedDate": "2017-09-27T16:16:32.276Z",
      "sender": "MTBCSGSG",
      "receiver": "CSFBSGSX",
      "transactionAmount": 65000,
      "priority": 0,
      "status": "ACTIVE"
    }
  ]
```

QUEUE IN

GET	`/api/queue/in`	Get Incoming Payment

Get all incoming payments in the queue.

Example URI

GET www.corda.net/api/queue/in

Response `200`

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE04
    "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
    "requestedDate": "2017-09-27T10:15:31.276Z",
    "updatedDate": "2017-09-27T11:15:31.276Z",
    "sender": "MTBCSGSG",
    "receiver": "CHASSGSG",
    "transactionAmount": 191251510
  },
  {
    "transId": "3434F10963EED85B0241E8006C5711DF39B80243F1BE74CE04
    "linearId": "2783d78c-6d1a-4963-ba64-0dcfe048fe61",
    "requestedDate": "2017-09-27T18:15:31.276Z",
    "updatedDate": "2017-09-27T19:15:31.276Z",
    "sender": "MTBCSGSG",
    "receiver": "CHASSGSG",
    "transactionAmount": 190
  }
]
```

QUEUE PRIORITY

PUT	`/api/queue/priority`	Update Payment Priority

Updates priority of payments in the queue with one of the following {priority: 1 (High Priority), 0 (Normal Priority)}

Example URI

PUT www.corda.net/api/queue/priority

Request

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
    "priority": 1
  },
  {
    "transId": "ASDI1210099921189A2CAE26E8592428B44A0476C716236003.
    "priority": 0
  }
]
```

Response 201

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
    "sender": "CHASSGSG",
    "receiver": "CSFBSGSX",
    "transactionAmount": 50,
    "status": "ACTIVE",
    "priority": 1
  },
  {
    "transId": "ASDI1210099921189A2CAE26E8592428B44A0476C716236003.
    "statusCode": 500,
    "msg": "Transaction ASDI1210099921189A2CAE26E8592428B44A0476C7
  }
]
```

QUEUE STATUS

PUT `/api/queue/status` Update Payment Status

Updates status of a payment in the queue based on current status. This would set payment status to active if current is hold and vice versa

Example URI

PUT www.corda.net/api/queue/status

Request

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
  },
  {
    "transId": "ASDI1210099921189A2CAE26E8592428B44A0476C716236003
  }
]
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
    "sender": "CHASSGSG",
    "receiver": "CSFBSGSX",
    "transactionAmount": 50,
    "status": "ACTIVE",
    "priority": 0
  },
  {
    "transId": "ASDI1210099921189A2CAE26E8592428B44A0476C716236003
    "statusCode": 500,
```

```
      "msg": "Transaction ASDI1210099921189A2CAE26E8592428B44A0476C7
    }
  ]
```

QUEUE CANCEL

| PUT | `/api/queue/cancel` | Cancel Payment Instruction |

Cancel payment instructions that are in the queue based on payment instruction id.

Example URI

PUT www.corda.net/api/queue/cancel

Request

Headers

```
  Content-Type: application/json
```

Body

```
  [
    {
      "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
    },
    {
      "transId": "ASDI1210099921189A2CAE26E8592428B44A0476C716236003.
    }
  ]
```

Response `201`

Headers

```
  Content-Type: application/json
```

Body

```
  [
    {
      "transId": "E04F48C96E428385B2AF989A2CAE26E8592428B44A0476C716
      "sender": "CHASSGSG",
      "receiver": "CSFBSGSX",
      "transactionAmount": 50,
      "status": "CANCELLED",
```

```
      "priority": 0
    },
    {
      "transId": "ASDI1210099921189A2CAE26E8592428B44A0476C716236003
      "statusCode": 500,
      "msg": "Transaction ASDI1210099921189A2CAE26E8592428B44A0476C7
    }
  ]
```

QUEUE SETTLE

| PUT | `/api/queue/settle` | Settle Outgoing Payments |

Settle outgoing payment in the queue if the bank has enough liquidity. In the current design, this would be invoked by scheduler to settle payment regularly.

Example URI

PUT www.corda.net/api/queue/settle

Request

Headers

```
Content-Type: application/json
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
[
  {
    "transId": "298587440E7935B0E6DC5B41E87819F598C53D5E94C736F28C
    "requestedDate": "2017-09-27T19:15:31.276Z",
    "updatedDate": "2017-09-27T19:15:31.276Z",
    "sender": "CSFBSGSX",
    "receiver": "MTBCSGSG",
    "transactionAmount": 30,
    "status": "SETTLED"
  },
  {
    "transId": "298587440E7935B0E6DC5B41E87819F598C53D5E94C736F28C
    "requestedDate": "2017-09-27T19:15:31.276Z",
    "updatedDate": "2017-09-27T19:15:31.276Z",
```

```
      "sender": "CSFBSGSX",
      "receiver": "MTBCSGSG",
      "transactionAmount": 30,
      "status": "SETTLED"
    }
  ]
```

Netting

NETTING MULTILATERAL

POST   `/api/netting`   Iniate Netting

Example URI

POST www.corda.net/api/netting

Request

Headers

```
Content-Type: application/json
```

Body

```
{}
```

Response `201`

Headers

```
Content-Type: application/json
```

Body

```
{
  "msg": "Netting Initiated"
}
```

GET NETTING STATUS

GET `/api/netting/status`   read current netting status

Status - still, detect, plan, deadlock, execute, complete

Example URI

GET www.corda.net/api/netting/status

Response `200`

Headers

```
Content-Type: application/json
```

Body

```json
{
  "status" : "detect",
  "msg" : "No Deadlock since 2017-10-10T06:38:02.293Z",
  "inDeadlock" : false,
  "notifiedDate" : "2017-10-10T06:38:02.293Z",
  "updatedDate" : "2017-10-10T06:39:06.741Z"
}

{
  "status" : "complete",
  "msg" : "No Deadlock since 2017-10-10T06:38:02.293Z",
  "inDeadlock" : false,
  "notifiedDate" : "2017-10-10T06:38:02.293Z",
  "updatedDate" : "2017-10-10T06:39:06.741Z"
}
```