

# Creation of Network on IBM Blockchain Platform

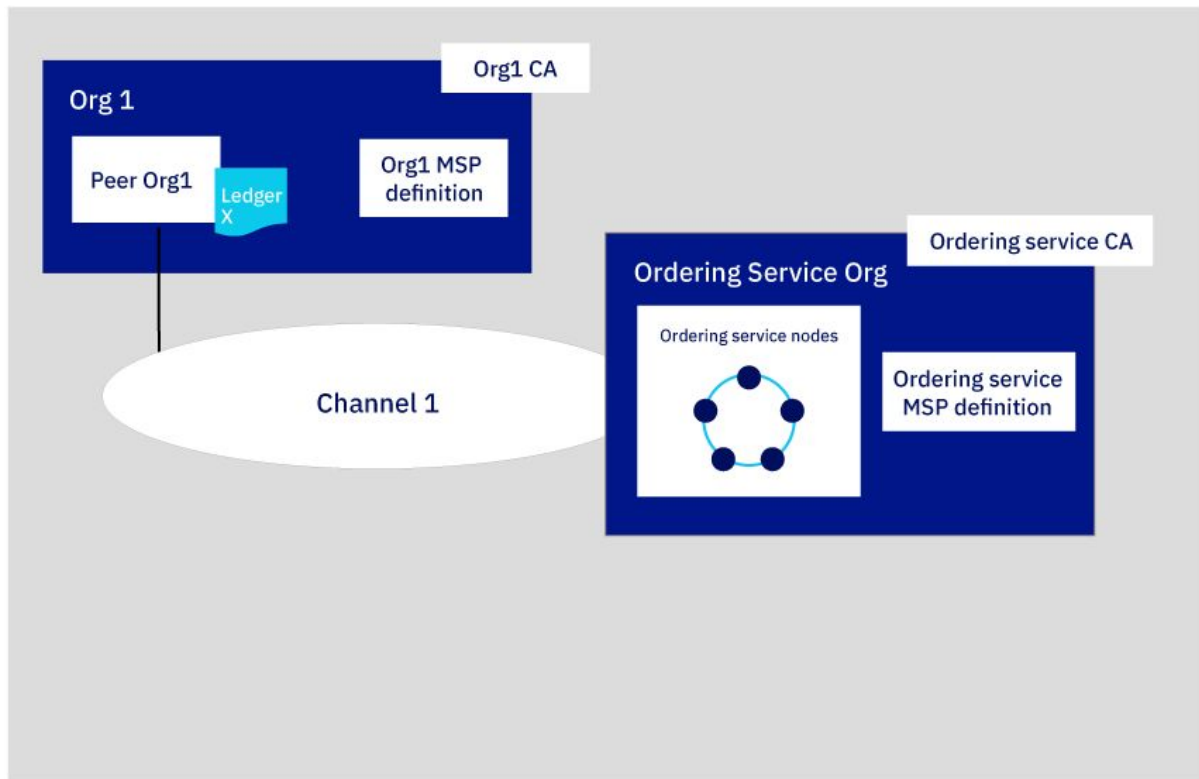


Fig 1: Network Structure [1]

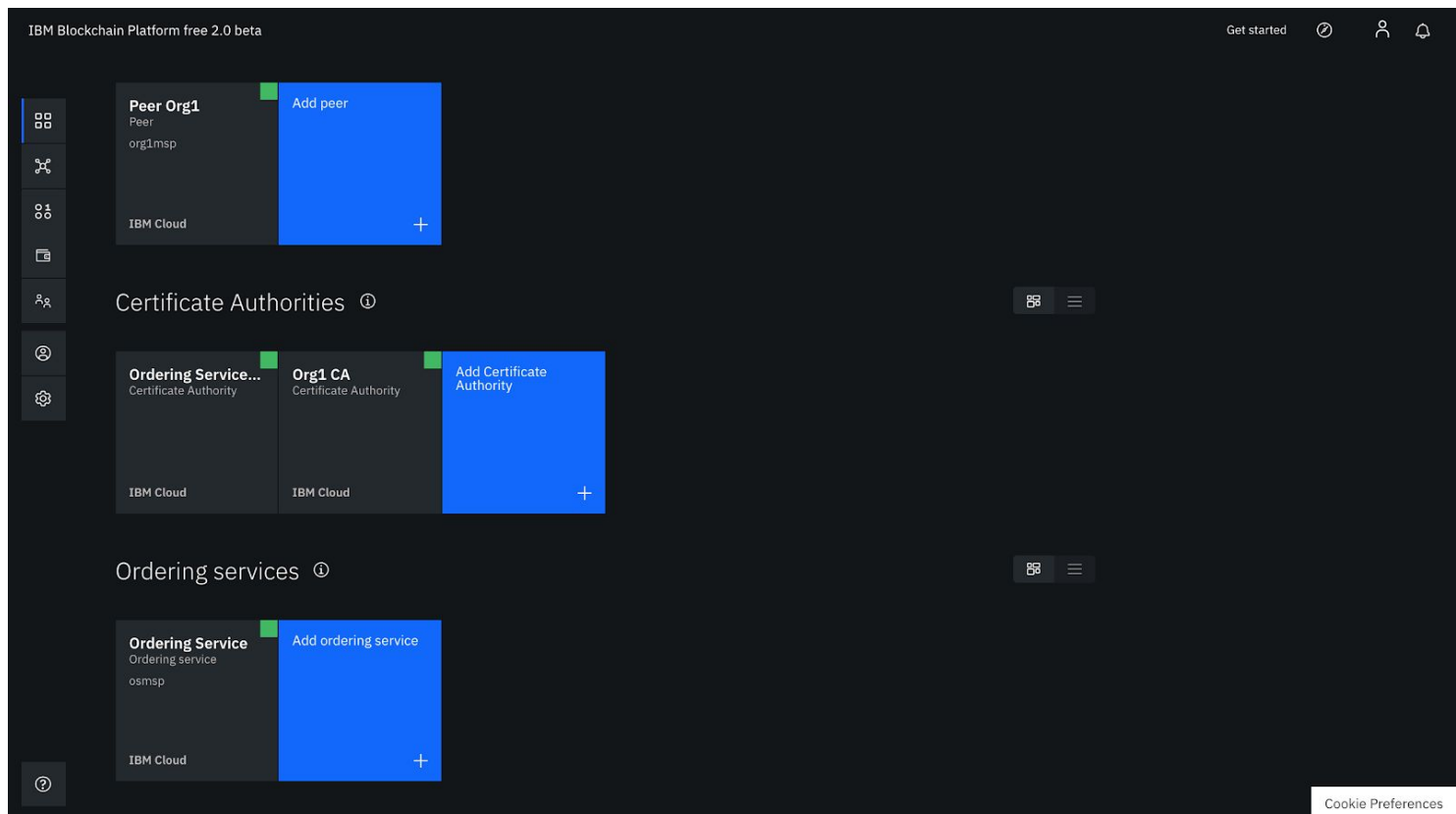


Fig 1: Network structure on IBM Blockchain Platform

Figure 2 shows the creation of the network. Followed the build a network tutorial [1] for this.

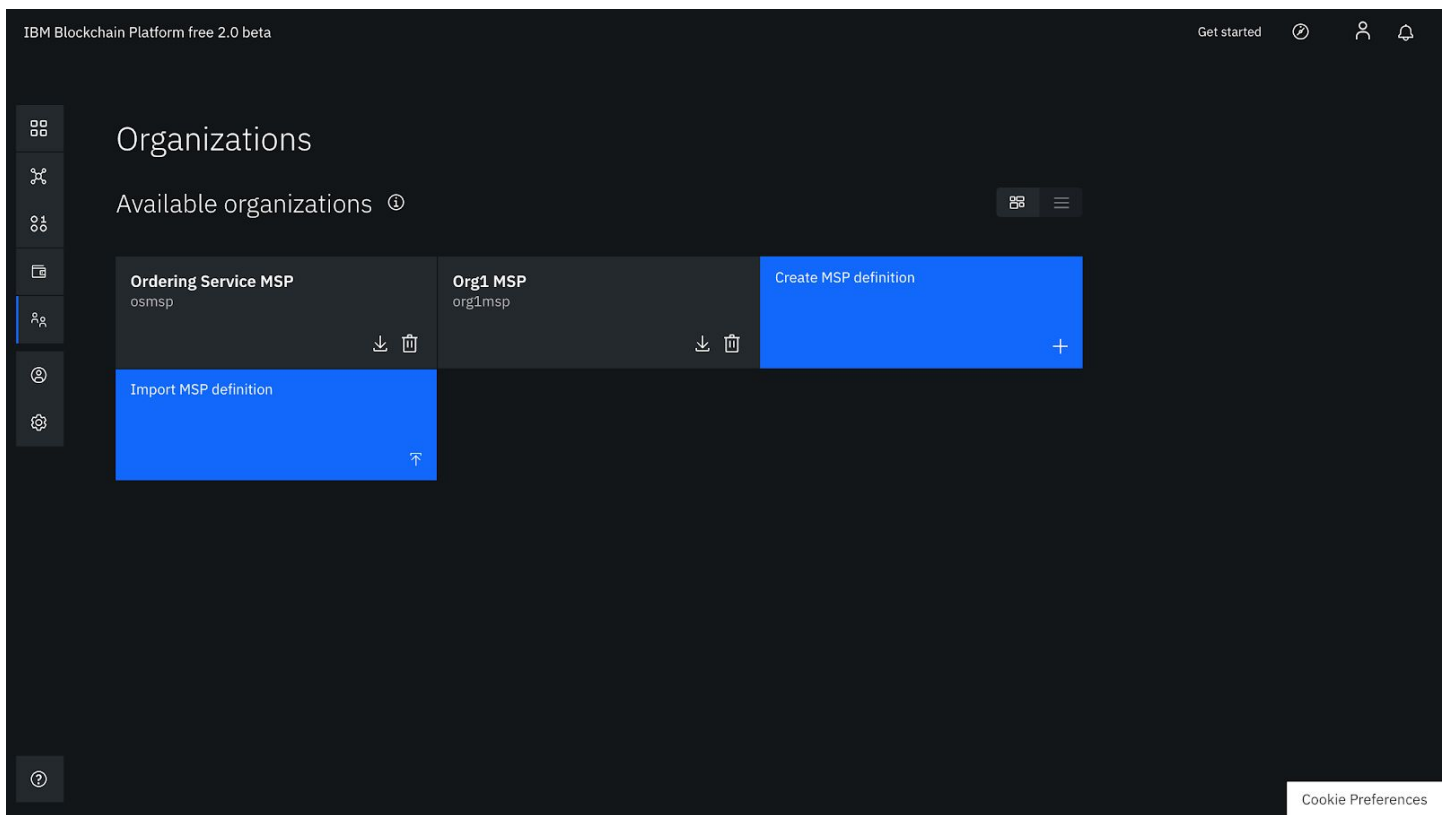


Fig 3: MSP definitions for organizations

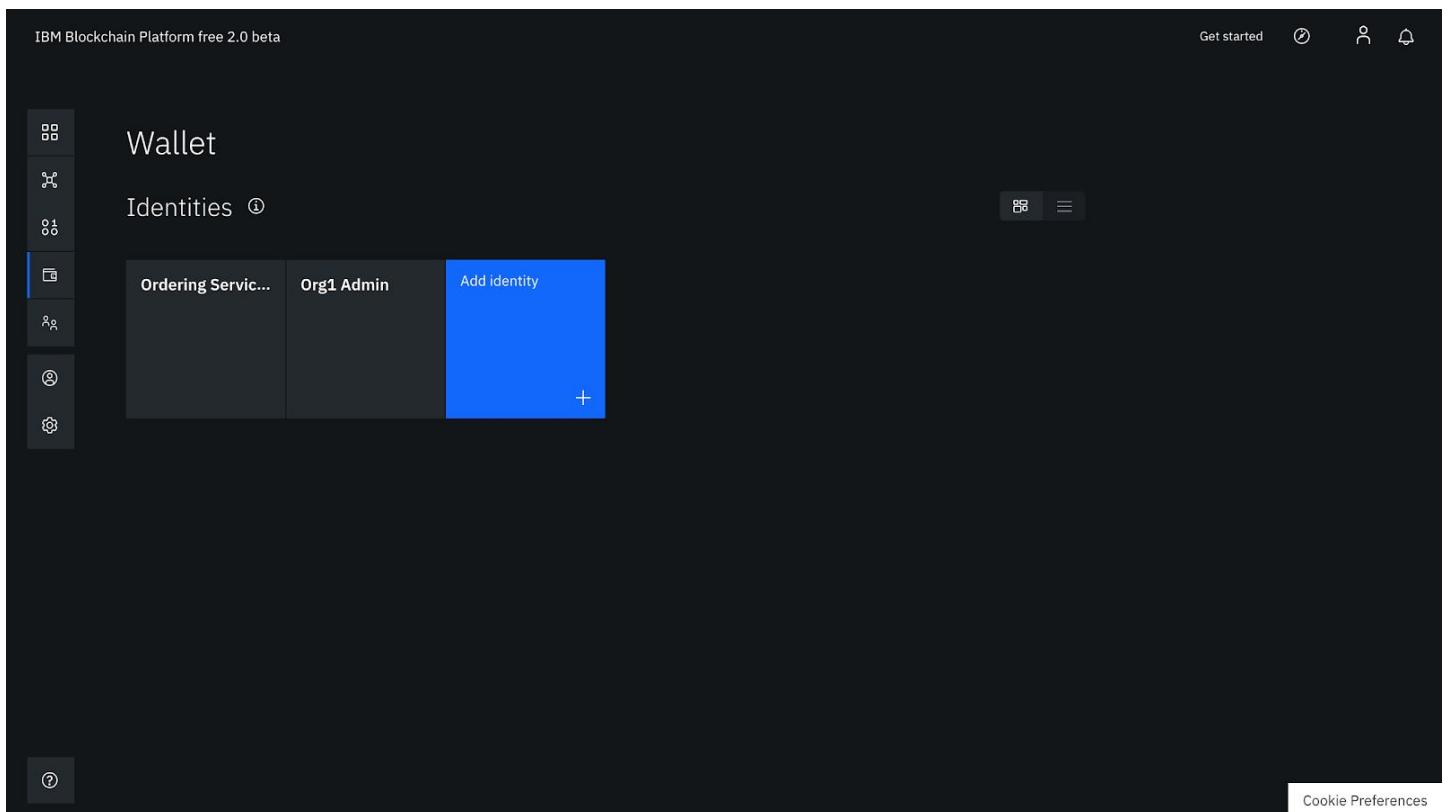


Fig 4: Wallet Identities for ordering service and Organization 1

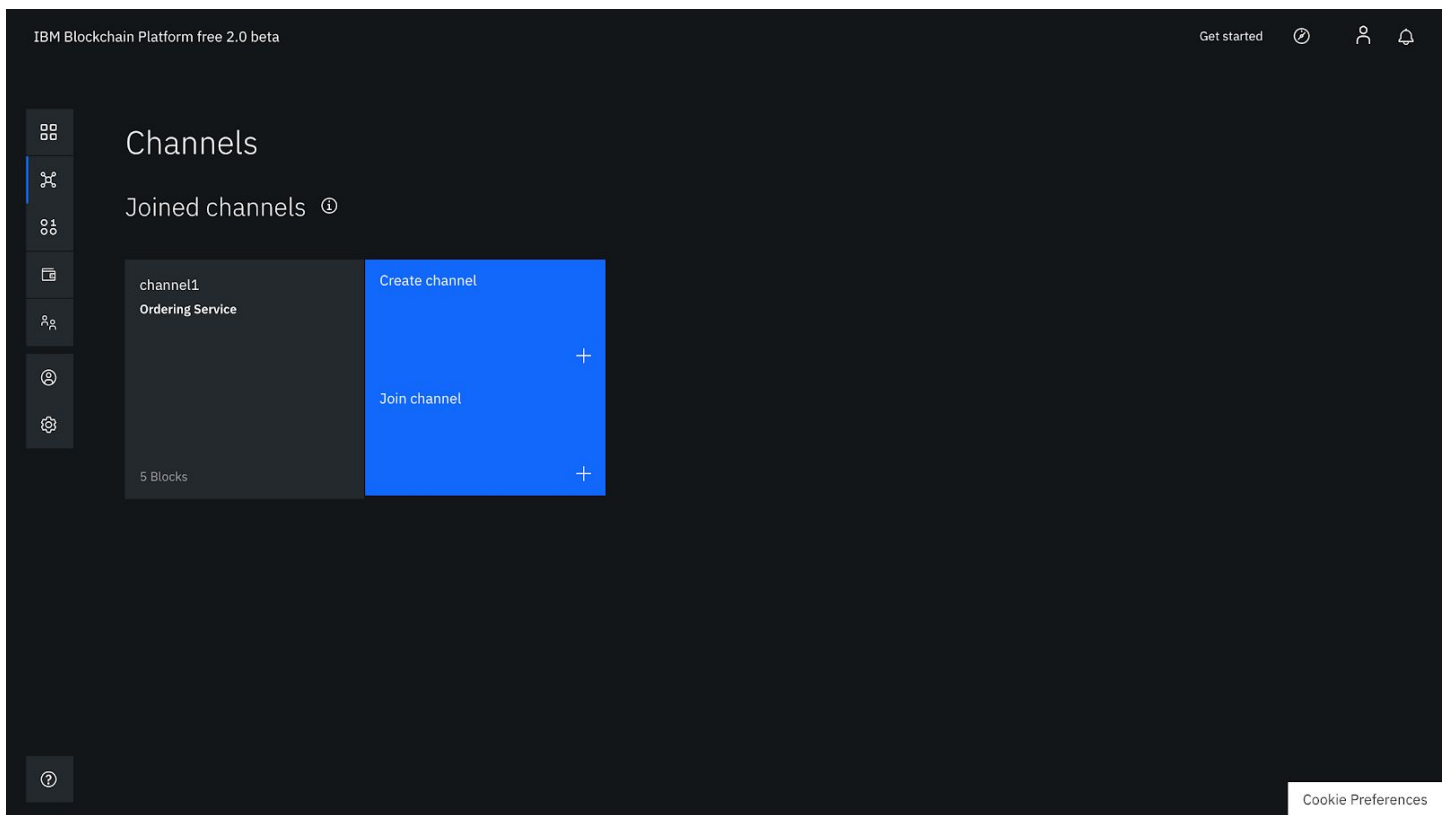


Fig 5: Channel1

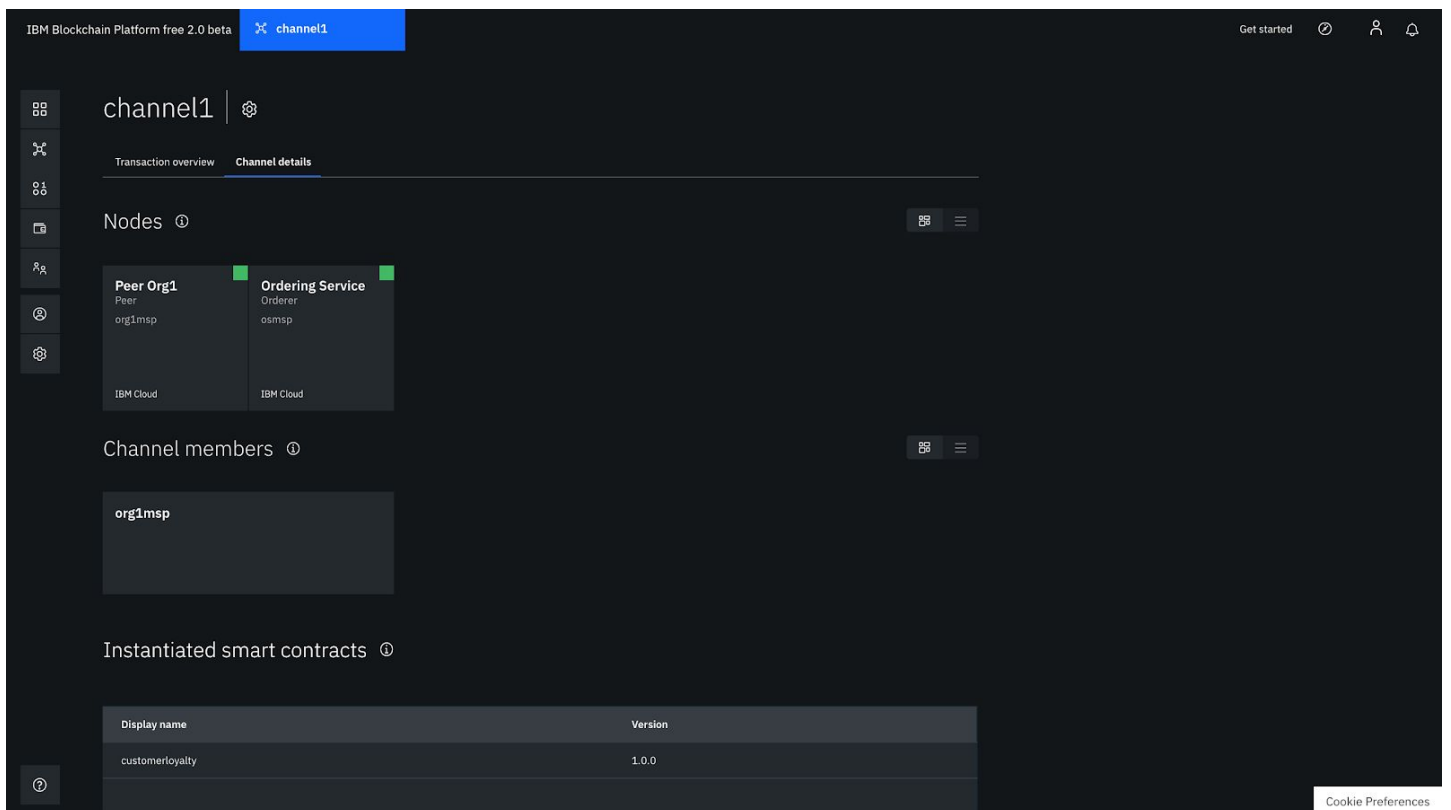


Fig 6: Channel1 details

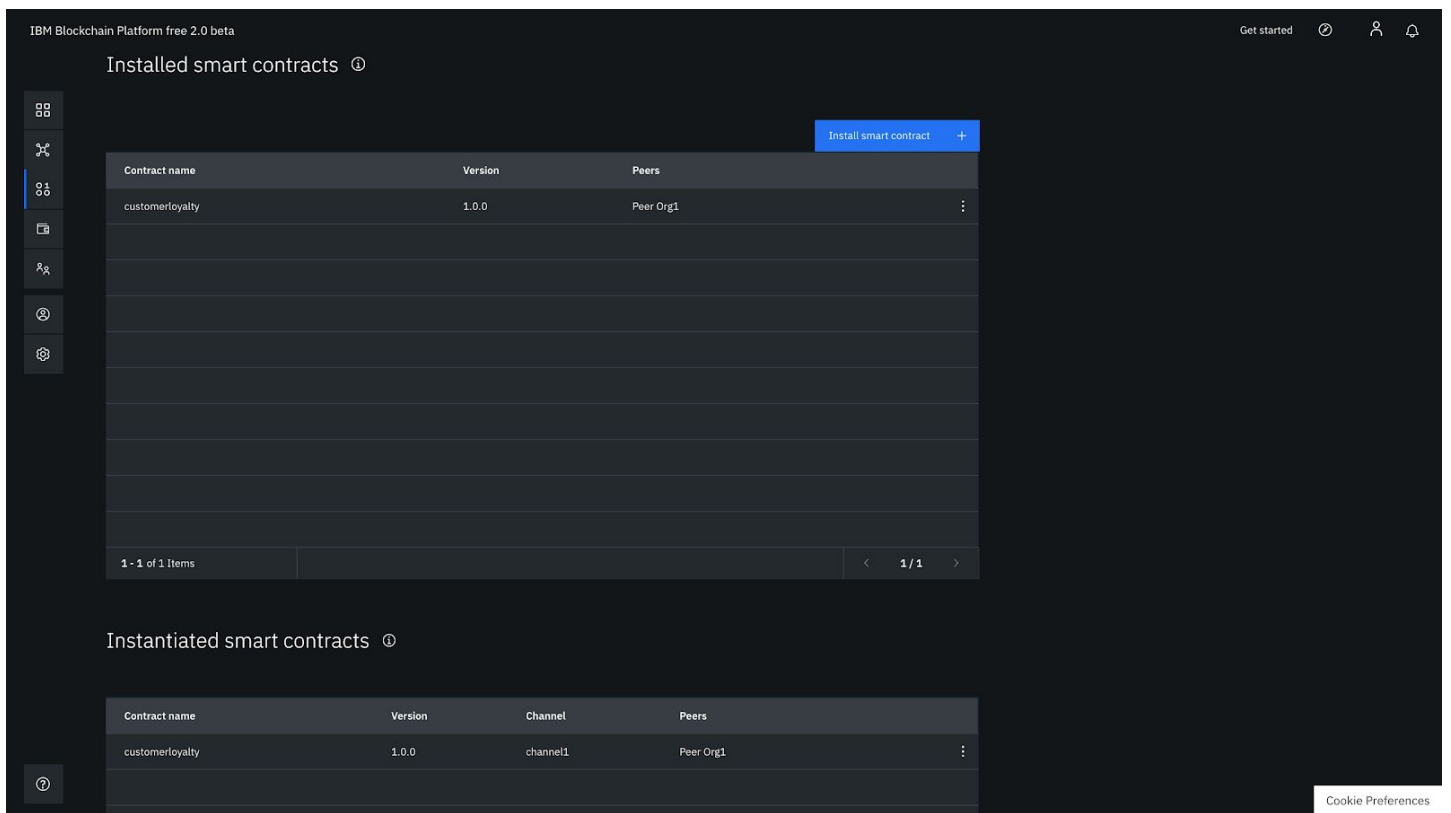


Fig 7: Installed smart contract and Instantiated Smart Contract

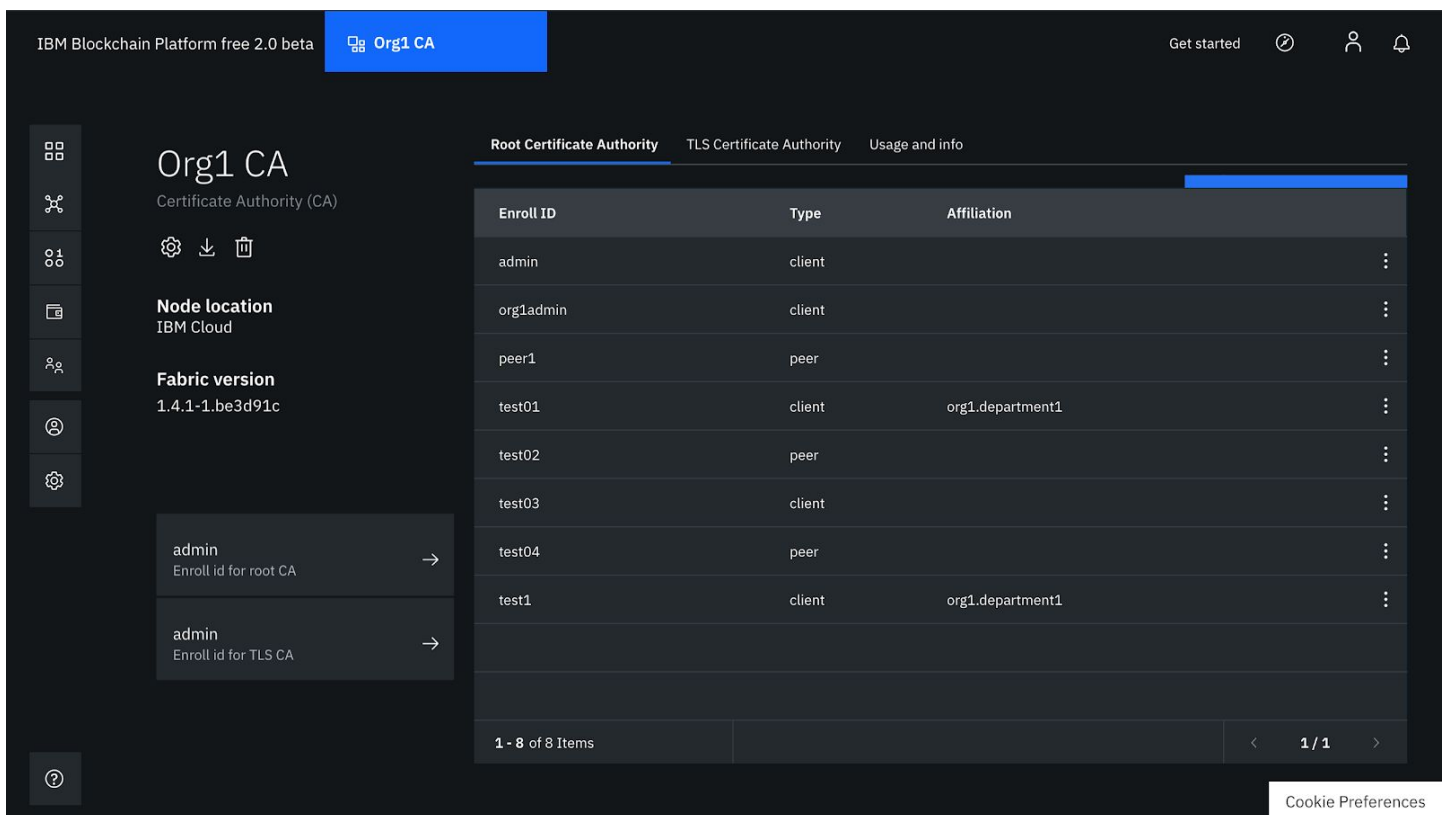


Fig 8: Org1 CA with users.

Figure 8 has **Eight** users.

1. User 1: admin -> client is created while creation of peer organization CA[2].
2. User 2: org1admin -> client is created while using CA to register users[3].
3. User 3: peer1 -> peer is created while using CA to register users[3].
4. Rest all the users are created when SDK connection is established through the connection.json file.

**For Connecting with the SDK [of the instantiated Smart Contract Customer Loyalty] MSP for the connection used is org1MSP and Certificate Authority used is Org1CA.\***

The GitHub repository [4] used.

contract/lib/customerloyalty.js is installed and instantiated on IBM Blockchain Platform.

customer-loyalty-program-hyperledger-fabric-VSCode/web-app/ is used on the local machine with the following changes:

1. Connection.json - \*downloaded from connecting with SDK
2. config.json

```
{
  "connection_file": "connection.json",
  "appAdmin": "admin",
  "appAdminSecret": "adminpw",
  "orgMSPID": "org1msp",
  "caName": "<certificateAuthorities[1]-IP address>",
  "gatewayDiscovery": { "enabled": true, "asLocalhost": false }
}
```

### **Error faced - Terminal**

memberData using param - accountNumber: 111111 cardId: test02

Wallet path: /Users/s/Desktop/clp/wallet

Get member state

2019-06-14T05:14:29.308Z - warn: **[DiscoveryEndorsementHandler]: \_build\_endorse\_group\_member >>**  
G0:0 - endorsement failed - Error: transaction returned with failure: SyntaxError: Unexpected end of JSON input

**{ Error: Endorsement has failed**

```
  at DiscoveryEndorsementHandler._endorse
(/Users/s/Desktop/clp/node_modules/fabric-client/lib/impl/DiscoveryEndorsementHandler.js:184:19)
endorsements:
[ { Error: transaction returned with failure: SyntaxError: Unexpected end of JSON input
  at self._endorserClient.processProposal
(/Users/s/Desktop/clp/node_modules/fabric-client/lib/Peer.js:140:36)
    at Object.onReceiveStatus (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:1207:9)
    at InterceptingListener._callNext
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:568:42)
    at InterceptingListener.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:618:8)
    at callback (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:845:24)
  status: 500,
  payload: <Buffer >,
  peer: [Object],
  isProposalResponse: true } ] }
```

Wallet path: /Users/s/Desktop/clp/wallet

Get use points transactions state for member 111111

2019-06-14T05:14:32.200Z - warn: [Query]: evaluate: Query ID "[object Object]" of peer  
"184.172.252.208:30857" failed: message=transaction returned with failure: SyntaxError: Unexpected end of JSON input, stack=Error: transaction returned with failure: SyntaxError: Unexpected end of JSON input

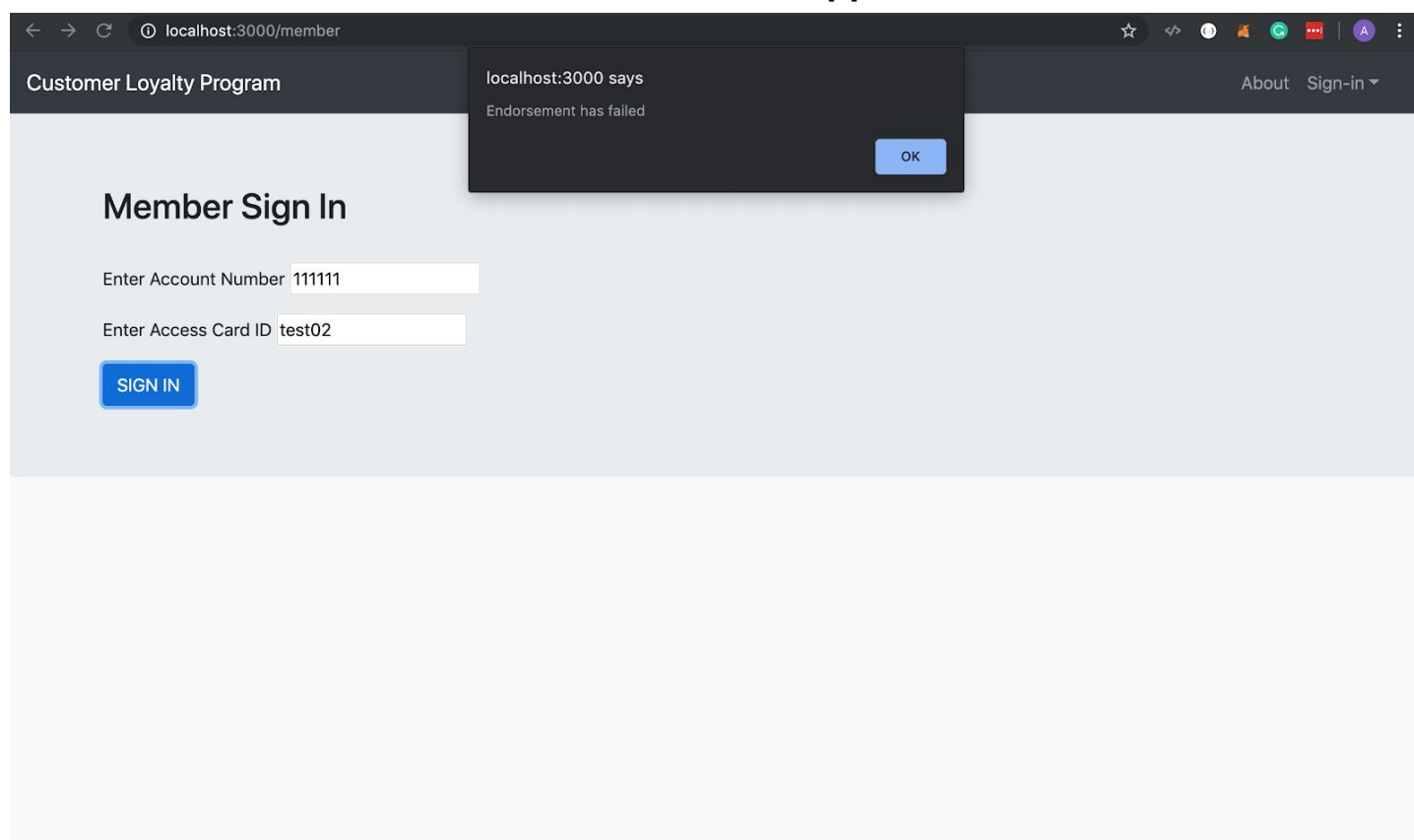
```
    at self._endorserClient.processProposal
(/Users/s/Desktop/clp/node_modules/fabric-client/lib/Peer.js:140:36)
    at Object.onReceiveStatus (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:1207:9)
    at InterceptingListener._callNext (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:568:42)
    at InterceptingListener.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:618:8)
    at callback (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:845:24), status=500, ,
url=grpcs://184.172.252.208:30857, name=184.172.252.208:30857, grpc.max_receive_message_length=-1,
grpc.max_send_message_length=-1, grpc.keepalive_time_ms=120000,
grpc.http2.min_time_between_pings_ms=120000, grpc.keepalive_timeout_ms=20000,
grpc.http2.max_pings_without_data=0, grpc.keepalive_permit_without_calls=1,
name=184.172.252.208:30857, grpc.ssl_target_name_override=184.172.252.208,
grpc.default_authority=184.172.252.208, isProposalResponse=true
2019-06-14T05:14:32.202Z - error: [SingleQueryHandler]: evaluate: message=No peers available to query.
Errors: [{"message":"transaction returned with failure: SyntaxError: Unexpected end of JSON
input","stack":"Error: transaction returned with failure: SyntaxError: Unexpected end of JSON input\n  at
self._endorserClient.processProposal (/Users/s/Desktop/clp/node_modules/fabric-client/lib/Peer.js:140:36)\n  at
Object.onReceiveStatus (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:1207:9)\n  at
InterceptingListener._callNext (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:568:42)\n  at
InterceptingListener.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:618:8)\n  at callback
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:845:24)","status":500,"payload":{"type":"Bu
ffer","data":[],"peer":{"url":"grpcs://184.172.252.208:30857","name":"184.172.252.208:30857","options":{"grpc.
max_receive_message_length":-1,"grpc.max_send_message_length":-1,"grpc.keepalive_time_ms":120000,"gr
pc.http2.min_time_between_pings_ms":120000,"grpc.keepalive_timeout_ms":20000,"grpc.http2.max_pings_w
ithout_data":0,"grpc.keepalive_permit_without_calls":1,"name":"184.172.252.208:30857","grpc.ssl_target_nam
e_override":"184.172.252.208","grpc.default_authority":"184.172.252.208"}},isProposalResponse":true}],
stack=FabricError: No peers available to query. Errors: [{"message":"transaction returned with failure:
SyntaxError: Unexpected end of JSON input","stack":"Error: transaction returned with failure: SyntaxError:
Unexpected end of JSON input\n  at self._endorserClient.processProposal
(/Users/s/Desktop/clp/node_modules/fabric-client/lib/Peer.js:140:36)\n  at Object.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:1207:9)\n  at
InterceptingListener._callNext (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:568:42)\n  at
InterceptingListener.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:618:8)\n  at callback
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:845:24)","status":500,"payload":{"type":"Bu
ffer","data":[],"peer":{"url":"grpcs://184.172.252.208:30857","name":"184.172.252.208:30857","options":{"grpc.
max_receive_message_length":-1,"grpc.max_send_message_length":-1,"grpc.keepalive_time_ms":120000,"gr
pc.http2.min_time_between_pings_ms":120000,"grpc.keepalive_timeout_ms":20000,"grpc.http2.max_pings_w
ithout_data":0,"grpc.keepalive_permit_without_calls":1,"name":"184.172.252.208:30857","grpc.ssl_target_nam
e_override":"184.172.252.208","grpc.default_authority":"184.172.252.208"}},isProposalResponse":true}}]
    at SingleQueryHandler.evaluate
(/Users/s/Desktop/clp/node_modules/fabric-network/lib/impl/query/singlequeryhandler.js:39:17),
name=FabricError
{ FabricError: No peers available to query. Errors: [{"message":"transaction returned with failure: SyntaxError:
Unexpected end of JSON input","stack":"Error: transaction returned with failure: SyntaxError: Unexpected end
of JSON input\n  at self._endorserClient.processProposal
(/Users/s/Desktop/clp/node_modules/fabric-client/lib/Peer.js:140:36)\n  at Object.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:1207:9)\n  at
InterceptingListener._callNext (/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:568:42)\n  at
InterceptingListener.onReceiveStatus
(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:618:8)\n  at callback
```

```

(/Users/s/Desktop/clp/node_modules/grpc/src/client_interceptors.js:845:24)","status":500,"payload":{"type":"Buffer","data":[]},"peer":{"url":"grpcs://184.172.252.208:30857","name":"184.172.252.208:30857","options":{"grpc.max_receive_message_length":-1,"grpc.max_send_message_length":-1,"grpc.keepalive_time_ms":120000,"grpc.http2.min_time_between_pings_ms":120000,"grpc.keepalive_timeout_ms":20000,"grpc.http2.max_pings_without_data":0,"grpc.keepalive_permit_without_calls":1,"name":"184.172.252.208:30857","grpc.ssl_target_name_override":"184.172.252.208","grpc.default_authority":"184.172.252.208"},"isProposalResponse":true}}
    at SingleQueryHandler.evaluate
(/Users/s/Desktop/clp/node_modules/fabric-network/lib/impl/query/singlequeryhandler.js:39:17) name:
'FabricError' }
(node:1684) UnhandledPromiseRejectionWarning: Error [ERR_HTTP_HEADERS_SENT]: Cannot set headers
after they are sent to the client
    at ServerResponse.setHeader (_http_outgoing.js:470:11)
    at ServerResponse.header (/Users/s/Desktop/clp/node_modules/express/lib/response.js:771:10)
    at ServerResponse.send (/Users/s/Desktop/clp/node_modules/express/lib/response.js:170:12)
    at ServerResponse.json (/Users/s/Desktop/clp/node_modules/express/lib/response.js:267:15)
    at network.usePointsTransactionsInfo.then (/Users/s/Desktop/clp/app.js:265:17)
(node:1684) UnhandledPromiseRejectionWarning: Unhandled promise rejection. This error originated either
by throwing inside of an async function without a catch block, or by rejecting a promise which was not handled
with .catch(). (rejection id: 1)
(node:1684) [DEP0018] DeprecationWarning: Unhandled promise rejections are deprecated. In the future,
promise rejections that are not handled will terminate the Node.js process with a non-zero exit code.

```

## Error on Web-App



### Findings:

The same project when the smart contract is locally deployed using VS Code Extension and local fabric ops runs perfectly. I perceive that there is an issue with the creation of network structure on IBM Blockchain Platform.

## REFERENCES:

[1] The structure of this network

<https://cloud.ibm.com/docs/services/blockchain/howto?topic=blockchain-ibp-console-build-network#ibp-console-build-network-structure>

[2] Creating your peer organization's CA

<https://cloud.ibm.com/docs/services/blockchain/howto?topic=blockchain-ibp-console-build-network#ibp-console-build-network-create-CA-org1CA>

[3] Using CA to register identities

<https://cloud.ibm.com/docs/services/blockchain/howto?topic=blockchain-ibp-console-build-network#ibp-console-build-network-use-CA-org1>

[4] Customer Loyalty Program with blockchain

<https://github.com/IBM/customer-loyalty-program-hyperledger-fabric-VSCode.git>