

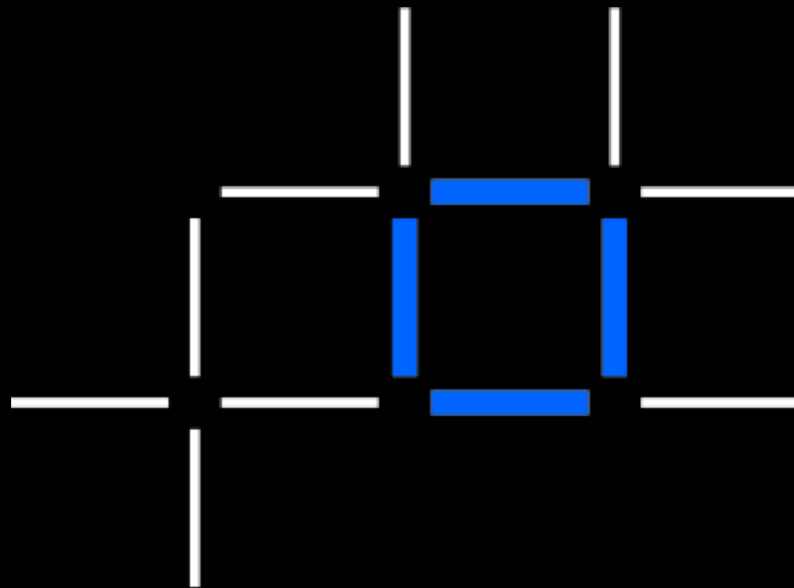
# Blockchain Explorer

A Technical Introduction to Hyperledger Composer

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*Blockchain Leader*



Blockchain Explorer

April 11th, 2018

IBM **Blockchain**





What is Blockchain Explorer?



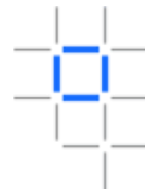
Setup



Visuals





# Blockchain Explorer



- Blockchain Explorer is a monitoring tool
  - Connects to a running Fabric application
  - Channel level monitoring
    - Blocks
    - Transactions
    - Chaincode
  - Transaction information
  - Speed of network
    - Transactions per second
    - Transactions per minute
    - Blocks per minute

mychannel

 PEER  
1

 BLOCK  
11

BLOCK #7

number	7
previous_hash	6932464f1fa62a70baf1891f759414eefec69836decb199d2438dcf684979...
data_hash	c9af2bb38314091b717ac0d05acb8342eb5a415129caf58e912291c4374a...
Transactions	<a href="#">51ed6365f6d90f6b58825e847d9d5a6f887d0744f26f241ebce8529f6d6bd...</a>



What is Blockchain  
Explorer?



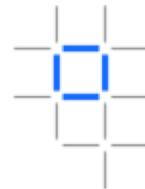
Setup



Visuals



# Blockchain Explorer



## MySQL



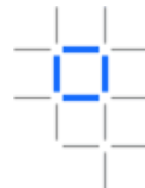
## MariaDB



## Config.json

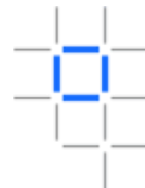
- File edited to fit around running Fabric
  - Keys
  - Certificates
  - Docker Containers

# Blockchain Explorer



```
"network-config": {  
  "org1": {  
    "name": "peerOrg1",  
    "mspid": "Org1MSP",  
    "peer1": {  
      "requests": "grpc://127.0.0.1:9051",  
      "events": "grpc://127.0.0.1:9053",  
      "server_hostname": "peer0.marblesinc.com",  
      "tls_cacerts": "/home/bcuser/zmarbles/crypto-config/peerOrganizations/marblesinc.com/peers/peer0.marblesinc.com/tls/ca.crt",  
    },  
    "admin": {  
      "key": "/home/bcuser/zmarbles/crypto-config/peerOrganizations/marblesinc.com/users/Admin@marblesinc.com/msp/keystore",  
      "cert": "/home/bcuser/zmarbles/crypto-config/peerOrganizations/marblesinc.com/users/Admin@marblesinc.com/msp/signcerts",  
    },  
  },  
}
```

# Blockchain Explorer



```
{  
  "host": "localhost",  
  "port": "8081",  
  "channel": "mychannel",  
  "keyValueStore": "/tmp/fabric-client-kvs_peerOrg1",  
  "eventWaitTime": "30000",  
  "mysql": {  
    "host": "127.0.0.1",  
    "port": "3306",  
    "database": "fabricexplorer",  
    "username": "blockchain",  
    "passwd": "password"  
  }  
}
```



What is Blockchain  
Explorer?



Setup



Visuals





A 3x3 grid with a blue square in the center.



Select Channel ▾



**BLOCK #7**

number	7
previous_hash	6932464f1fa62a70baf1891f759414eefec69836dec b199d2438dcf684979...
data_hash	c9af2bb38314091b717ac0d05acb8342eb5a415129caf58e912291c4374a...
Transactions	51ed6365f6d90f6b58825e847d9d5a6f887d0744f26f241ebce8529f6dbd...

BLOCKLIST

#8	3
#7	1
#6	1
#5	1
#4	1
#3	1

BLOCKVIEW

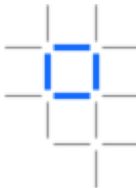
Identifier [number, hash, tag]


☒ Block

☐ Transaction


Find

# Blockchain Explorer







PEER  
1



BLOCK  
11



TX  
32



CHAINCODE  
1

BLOCK #7

number7

previous\_hash6932464f1fa62a70baf1891f759414eefec69836decb199d2438dcf684979...

data\_hashc9af2bb38314091b717ac0d05acb8342eb5a415129caf58e912291c4374a...

Transactions51ed6365f6d90f6b58825e847d9d5a6f887d0744f26f241ebce8529f6d6bd...

BLOCKLIST

#83

#71

#61

#51

#41

#31

BLOCKVIEW

Identifier [number, hash, tag]

Block

Transaction

Find

# Blockchain Explorer



TRANSACTION

tx\_id

51ed6365f6d90f6b58825e847d9d5a6f887d0744f26f241ebce8529f6d6bd...

timestamp

Fri Feb 09 2018 20:48:36 GMT-0500 (EST)

channel\_id

mychannel

type

ENDORSER\_TRANSACTION

PEERLIST

org

request

peer0.marblesinc.com

grpc://127.0.0.1:9051

TRANSACTIONS/SEC

12:34:44 PM

12:35:05 PM

# Blockchain Explorer



TRANSACTIONS/MIN

12:35:07 PM12:35:22 PM

BLOCKS/MIN

12:35:07 PM12:35:22 PM

CHAINCODE LIST

name	version	path	trans
marbles	1.0	github.com/hyperledger/fabric/examples/chaincode/go/marbles	29

# Thank you

*Austin Grice*

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*Blockchain Leader*

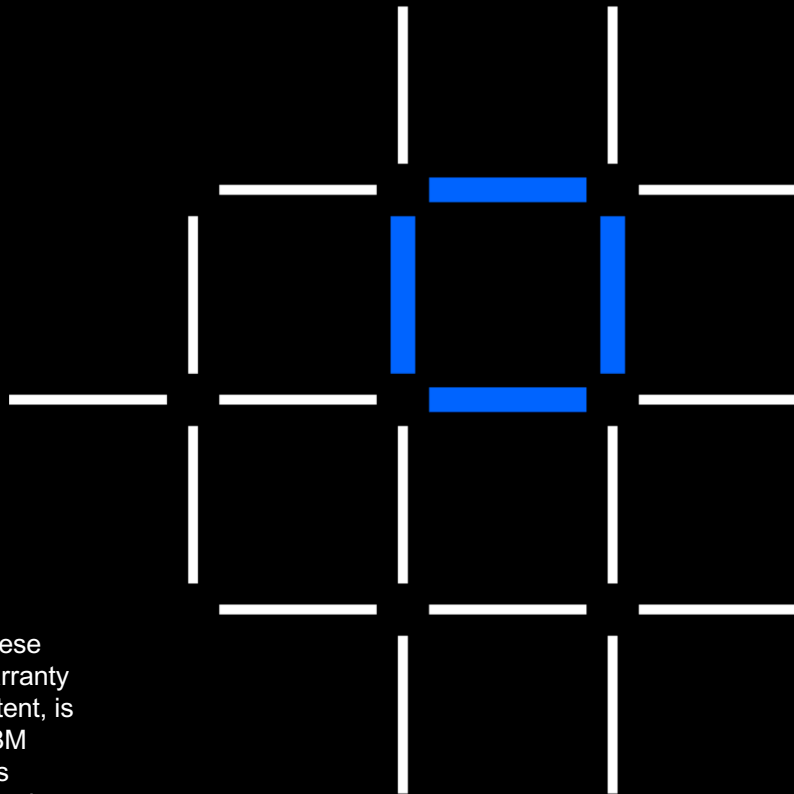
## IBM Blockchain

[www.ibm.com/blockchain](http://www.ibm.com/blockchain)

[developer.ibm.com/blockchain](http://developer.ibm.com/blockchain)

[www.hyperledger.org](http://www.hyperledger.org)

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