

ALF A Guide to developing in Hyperledger V2

Blockchain builds on basic business concepts

- **Business Networks** connect businesses
- **Participants** with Identity
- **Assets** flow over business networks
- **Transactions** describe asset exchange
- **Contracts** underpin transactions
- **The ledger** is a log of transactions

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Blockchain provides an
immutable, shared, replicated ledger



<https://www.youtube.com/watch?v=-O3ouBdG3Xg>

Blockchain in 2018

Technologies

- Bitcoin
- Ethereum
- Hyperledger
- CORDA
- Ripple
- BigChainDB
- Quorum
- Stellar
- +++

Topics

- Shared Ledger & smart contracts
- Public, private
- Permissioned, permission-less
- Tokens and incentive mechanisms
- Identity and Zero Knowledge
- Consensus mechanisms
- On-chain, off-chain
- Systems integration
- Inter-ledgering
- Physical-digital with IOT

Communities

- Bitcoin
- Ethereum
- Linux Foundation / Hyperledger
- EEA
- ISO/TC 307 – Blockchain & DLT
- IEEE Blockchain
- W3C Blockchain Community
- Accord Project
- Sovrin
- DIF

Hyperledger



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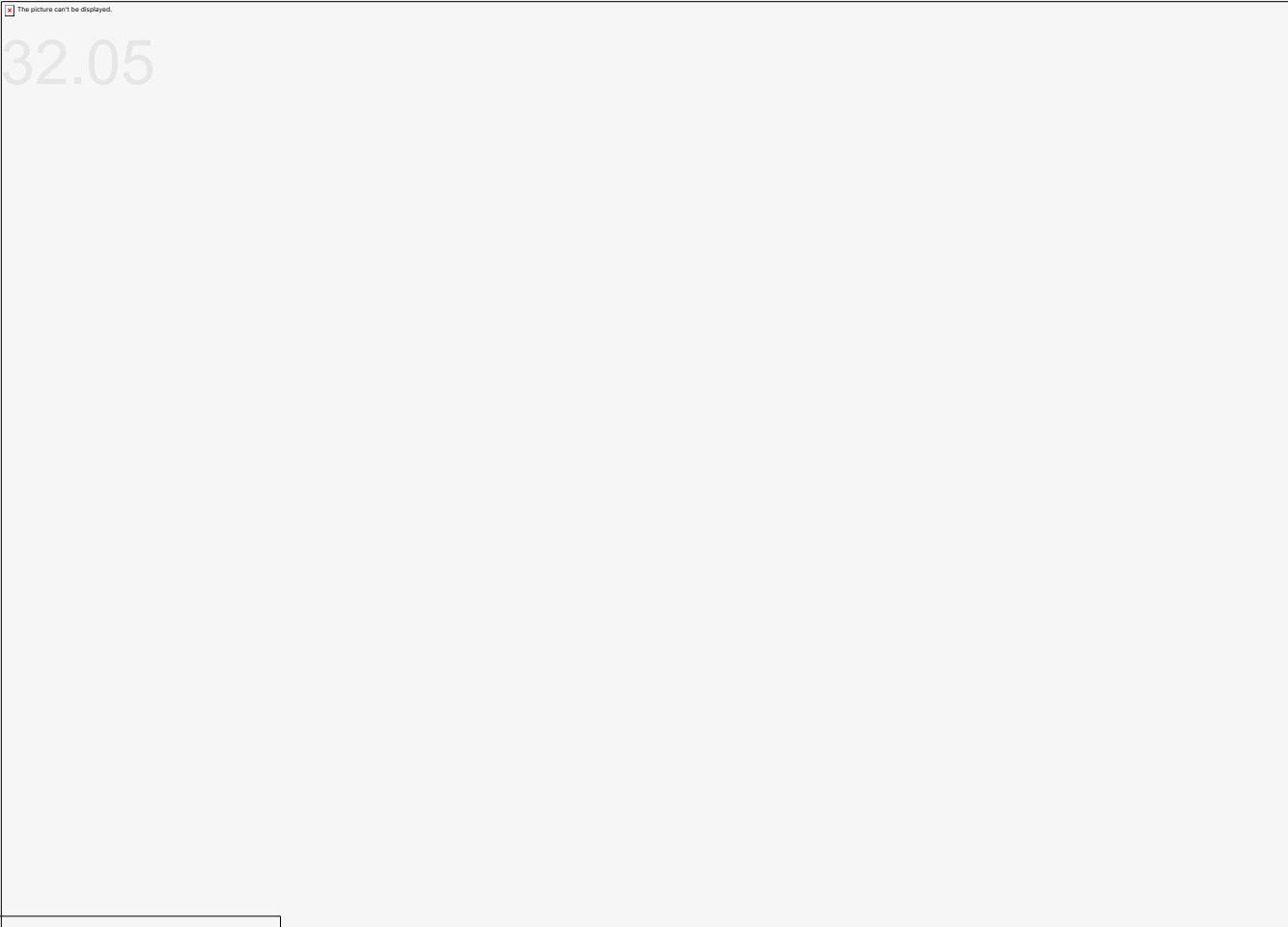
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https://www.hyperledger.org/wp-content/uploads/2017/08/Hyperledger_Arch_WG_Paper_1_Consensus.pdf

Hyperledger Explorer console

at 08.32.05



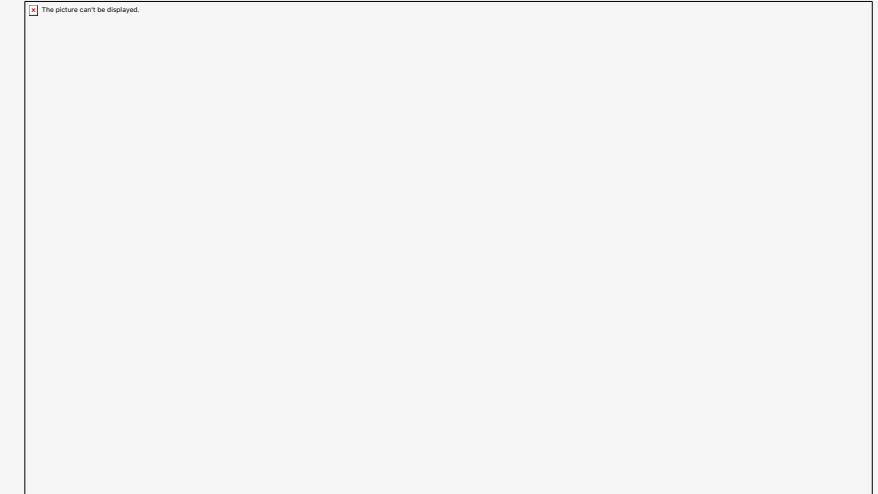
Hyperledger integration

Using the Hyperledger Burrow EVM inside Hyperledger Fabric

Run your Ethereum apps on Hyperledger Fabric

By Swetha Repakula | Last updated October 11, 2018

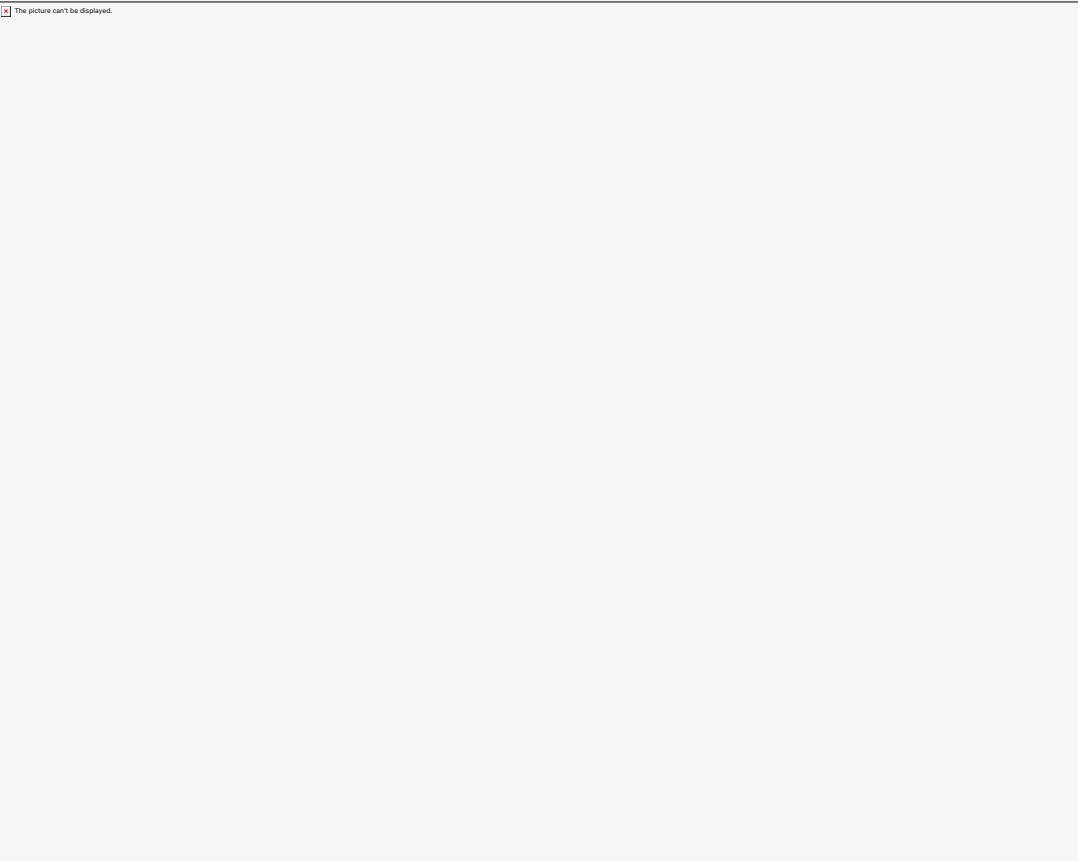
<https://developer.ibm.com/videos/using-the-hyperledger-burrow-evm-inside-hyperledger-fabric/>



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Hyperledger Fabric releases



<https://github.com/hyperledger/fabric#releases>

<https://www.hyperledger.org/resources/publications/blockchain-performance-metrics>

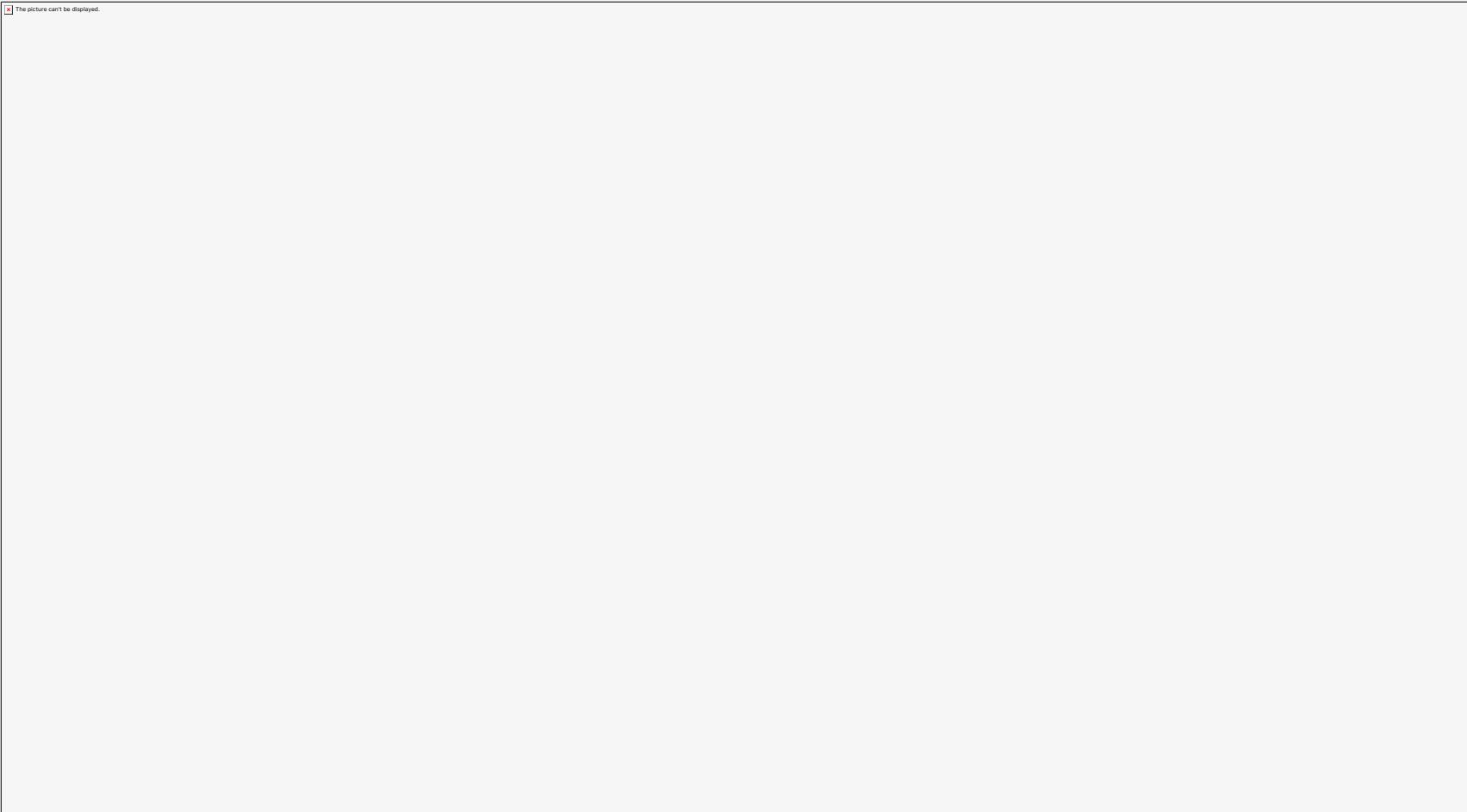
Developing Hyperledger Applications



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Hyperledger Fabric Use Cases



IBM Food Trust: trust and transparency in our food

Learn how blockchain is making the world's food supply chain safer, more efficient and more sustainable

PDF [See how it works \(4.3 MB\)](#) → [Try our interactive demo](#)



Bringing new clarity to food supply complexity

Food's journey from farm to table involves numerous transactions between different people and companies. What if we could simplify this process, enabling transactions to be shared securely and efficiently among every actor in the supply chain?

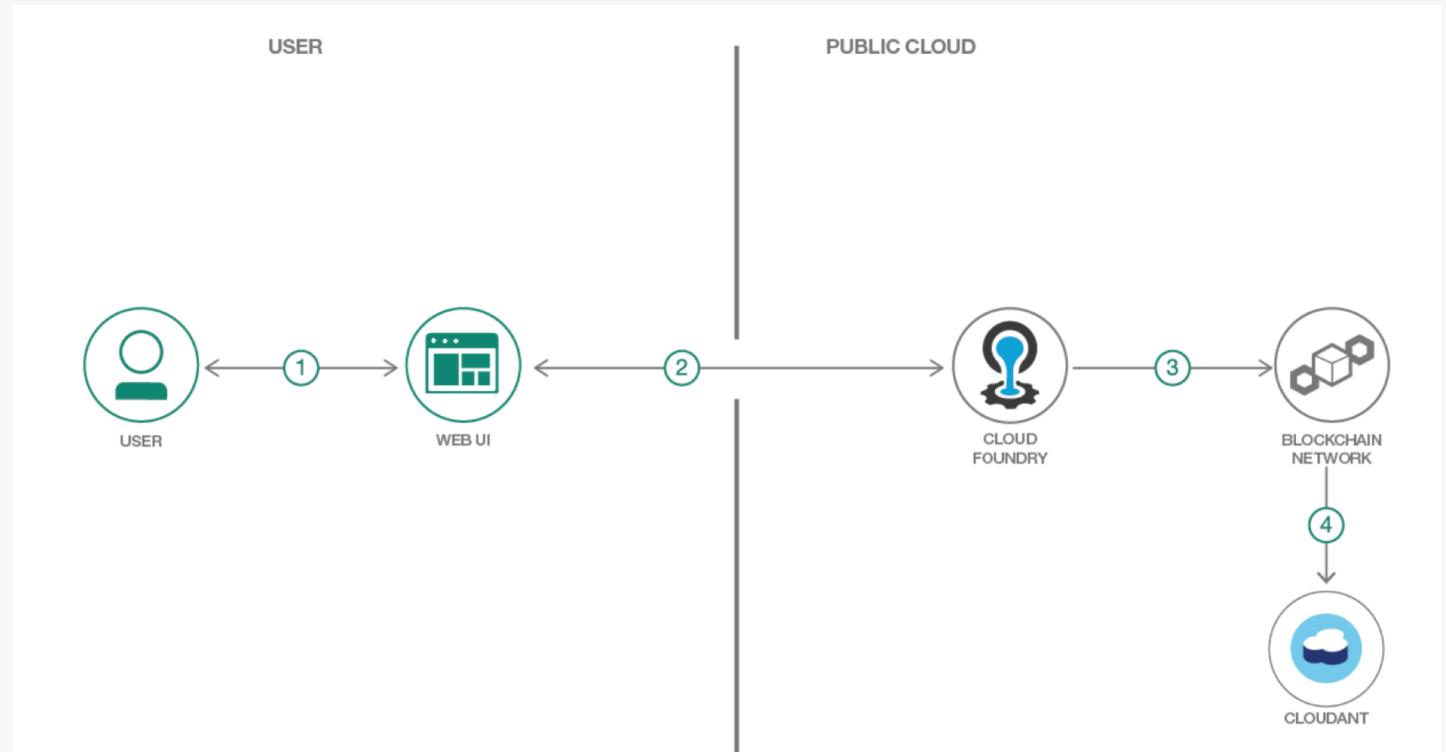
IBM Food Trust™ uses blockchain technology to create unprecedented visibility and accountability in the food supply chain. It is the only network of its kind, connecting growers, processors, distributors, and retailers through a permissioned, permanent and shared record of food system data. Together, we are improving food for all.



<https://www.ibm.com/blockchain/solutions/food-trust>

Create a fair trade supply network with Hyperledger Composer and IBM Blockchain Starter Plan

<https://github.com/IBM/blockchainbean>



Blockchain

Distributed database maintaining a continuously growing list of secured records or blocks.

Read more

Including coding samples

Related code patterns



Create and deploy a blockchain network using Hyperledger Fabric SDK Java



Implement asset securitization on a blockchain ledger

Deploy a React UI that has can submit blockchain transactions and view the state of a blockchain ledger on



Interacting with a blockchain network

Execute transactions and requests against a blockchain network by creating an app to test the network and its

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<https://developer.ibm.com/code/technologies/blockchain/>



Blockchain

Create a fair-trade supply network

In this developer code pattern, we will create a blockchain app that increases visibility and efficiency in the supply chain of a coffee retailer.



Blockchain

Java

Create and deploy a blockchain network using Hyperledger Fabric SDK Java

Create and deploy a blockchain network using Hyperledger Fabric SDK Java, setting up and initializing the channel, installing and instantiating chaincode, and performing invoke and query on your blockchain network.



Blockchain

Finance

Implement asset securitization on a blockchain ledger

Deploy a React UI that has can submit blockchain transactions and view the state of a blockchain ledger as updated.



Blockchain

Containers

Interacting with a blockchain network

Execute transactions and requests against a blockchain network by creating an app to test the network and its rules.



Blockchain

IoT

Leverage blockchain monitoring

Learn how to create a blockchain monitoring app using React and Node.js with the Hyperledger Fabric SDK.



Blockchain

Container Orchestration

Containers

Java

Mobile

Serverless

Create an Android app with Blockchain integration

This code pattern is for developers who want to provide data anonymity and security to their users. Learn how to build a native Android app, deploy a Blockchain Network in Kubernetes, and then integrate the Android app with the Blockchain Network.

The Cloud



Click here to switch between the organizations you control. X

Olympus Network - iJS



MY NETWORK

Overview

Members

Channels

Notifications

Certificate Authority

APIs

MY CODE

Develop code

Install code

Try samples

Overview

View and manage network resources for your organization. You can stop or start your resources and view the log file of the resource by selecting View Logs under "Actions". [Learn more](#)

[Overview](#) [Storage](#)[Remote Peer Configuration](#)[Connection Profile](#)[Add](#)

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<input type="checkbox"/>	Orderer	orderer	● Running	⋮
<input type="checkbox"/>	CA	org1-ca	● Running	↻ ■ ⋮
<input type="checkbox"/>	Peer	org1-peer1	● Running	↻ ■ ⋮

IBM Cloud Garage with Blockchain



Dubai



London



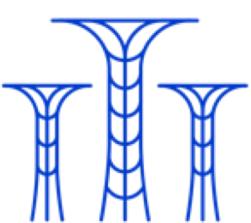
Munich



New York



San Francisco



Singapore



Tokyo



Toronto

... Or we can bring a pop-up location to you!

- Discovery Workshop

- Design Thinking Workshop

- Minimum Viable Product Buildup (MVP)

- Architectural Consultation



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