What is Hyperledger?

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Learning Objectives:

* Hyperledger Project

* Linux Foundation

* Hyperledger Fabric & Composer

What is Hyperledger?

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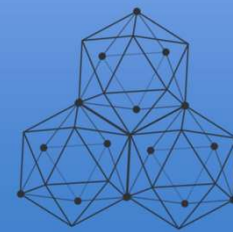
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Discount Coupon Links to UDEMY courses:

Learn **Hyperledger Fabric**
Hands On **Blockchain** Development
https://www.udemy.com/hyperledger/?couponCode=DKHLF1099

Learn **Ethereum DAPP** on UDEMY
Hands On **Blockchain** Development
https://www.udemy.com/ethereum-dapp/?couponCode=DKETH1099

Learn **REST API** on UDEMY
API Design, Development & Management
https://www.udemy.com/rest-api/?couponCode=DKRST1099

Blockchain
Training
bcmentors.com
mentoring, seeking Blockchain part time work, project guidance, advice … …
http://www.bcmentors.com
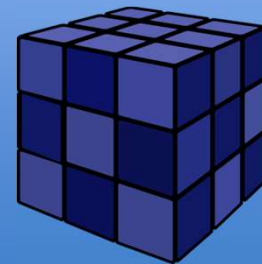
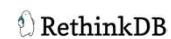This deck is part of a online course on "Hyperledger Fabric Development with Composer"

HYPERLEDGER

Hyperledger is an Umbrella project of open source Blockchain and related tools started in December 2015 by the Linux Foundation

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THE LINUX FOUNDATION

The Linux Foundation is dedicated to building sustainable ecosystems around open source projects to accelerate technology development and commercial adoption

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OPENCHAIN

node JS

HYPERLEDGER
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

CoreDNS

OPEN API
INITIATIVE

CLOUD FOUNDRY

kubernetes

RethinkDB

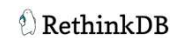https://www.linuxfoundation.org/

THE
LINUX
FOUNDATION

- Founded in 2000

- Funded by the membership fees

- Support for open source communities through financial and intellectual resources, infrastructure, services, events, and training

http://www.ACloudFan.com

OPENCHAIN

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HYPERLEDGER
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THE
LINUX
FOUNDATION

Funded via membership fees

AT&T

CISCO

FUJITSU

accenture
High performance. Delivered.

Alibaba Cloud
MORE THAN JUST CLOUD

Baidu 百度

BLACKROCK

HITACHI
Inspire the Next

HUAWEI

IBM

CITRIX

DELLEMC

DOKY

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Panasonic

RENESAS

SUSE

ORACLE

QUALCOMM

SAMSUNG

TOSHIBA

TOYOTA

vmware

www.

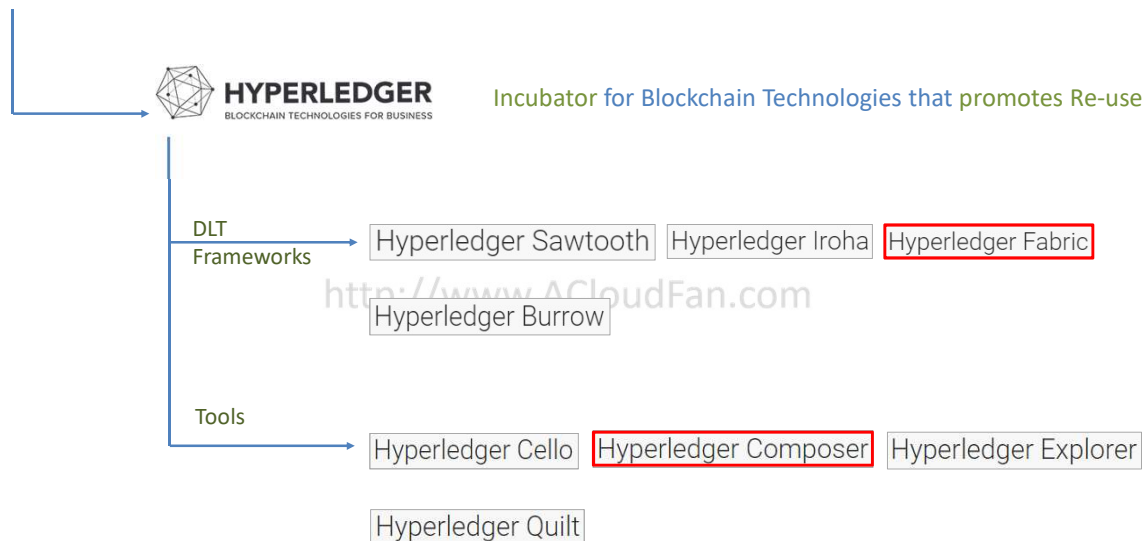800+ Members   50+ Projects

As of Nov 2017

HYPERLEDGER

" Hyperledger project is an open source collaborative effort created to advance cross-industry blockchain technologies.

It is a Linux Foundation Project and implements many open source best practices familiar to other leading projects.

THE LINUX FOUNDATION

Hyperledger is one of the Linux Foundation project

HYPERLEDGER
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

Incubator for Blockchain Technologies that promotes Re-use

DLT Frameworks → Hyperledger Sawtooth | Hyperledger Iroha | Hyperledger Fabric
Hyperledger Burrow

Tools → Hyperledger Cello | Hyperledger Composer | Hyperledger Explorer
Hyperledger Quilt

https://hyperledger.org/projects#

Fabric
HYPERLEDGER

July 11th , 2017

"

Hyperledger Announces Production-Ready Hyperledger Fabric 1.0

http://www.ACloudFan.com

STATE STREET   IBM   ThoughtWorks   DTCC
Securing Today. Shaping Tomorrow.™

HITACHI   SAP   cloudsoft
Bringing Business to the Cloud

159+ Engineers

28+ Organizations

As of Nov 2017

https://www.hyperledger.org/announcements/2017/07/11/hyperledger-announces-production-ready-hyperledger-fabric-1-0

HYPERLEDGER   About   Members   Projects   Community   Industries   News & Events   Blog

Community

Hyperledger is led by a diverse group of technical, open source contributors.
Below are just some of the ways you can participate.

Participate on Hyperledger Mailing Lists

JOIN MAILING LISTS

Check out all the Hyperledger business blockchain technologies

LEARN MORE

Start or join a Hyperledger Meetup

LEARN MORE

Join the discussion on Rocket.Chat

JOIN DISCUSSION

https://hyperledger.org/community

Fabric
HYPERLEDGER

- Production ready BC <mark>FRAMEWORK</mark> for Business Blockchain Applications

- Set of infrastructure & application **Building blocks**

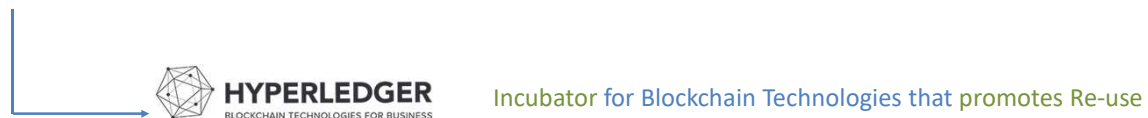http://www.ACloudFan.com

- **Practices** & **Guidelines** for creating BC apps

THE LINUX FOUNDATION

Hyperledger is one of the Linux Foundation project

HYPERLEDGER
BLOCKCHAIN TECHNOLOGIES FOR BUSINESS

Incubator for Blockchain Technologies that promotes Re-use

DLT Frameworks → Hyperledger Fabric

- Production ready BC <mark>FRAMEWORK</mark> for Business Blockchain Applications

Tools → Hyperledger Composer

- Tool for creating Business Network Applications for Hyperledger DLT frameworks

Summary

- Hyperledger = Incubator for BC Technologies

  - One of the projects hosted by THE LINUX FOUNDATION

- Hyperledger Fabric = DLT Framework

  - One of the DLT framework initiative under the Hyperledger Project

- Hyperledger Composer = Blockchain Tool Initiative

  - A tool for creating business applications on Hyperledger DLT Frameworks
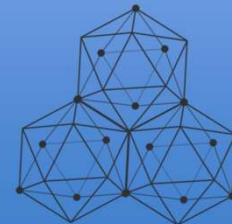

Distributed Ledger Technology

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Learning Objectives:

- Overview of DLT

- DLT Challenges

Assets

Decentralized
system for exchange of **VALUE**

http://www.ACloudFan.com

| Assets | Represents Value |

Tangible

Assets

http://www.ACloudFan.com

Intangible

REWARDS
POINTS

Distributed Ledger Technology (DLT)

Decentralized
system for exchange of **VALUE**
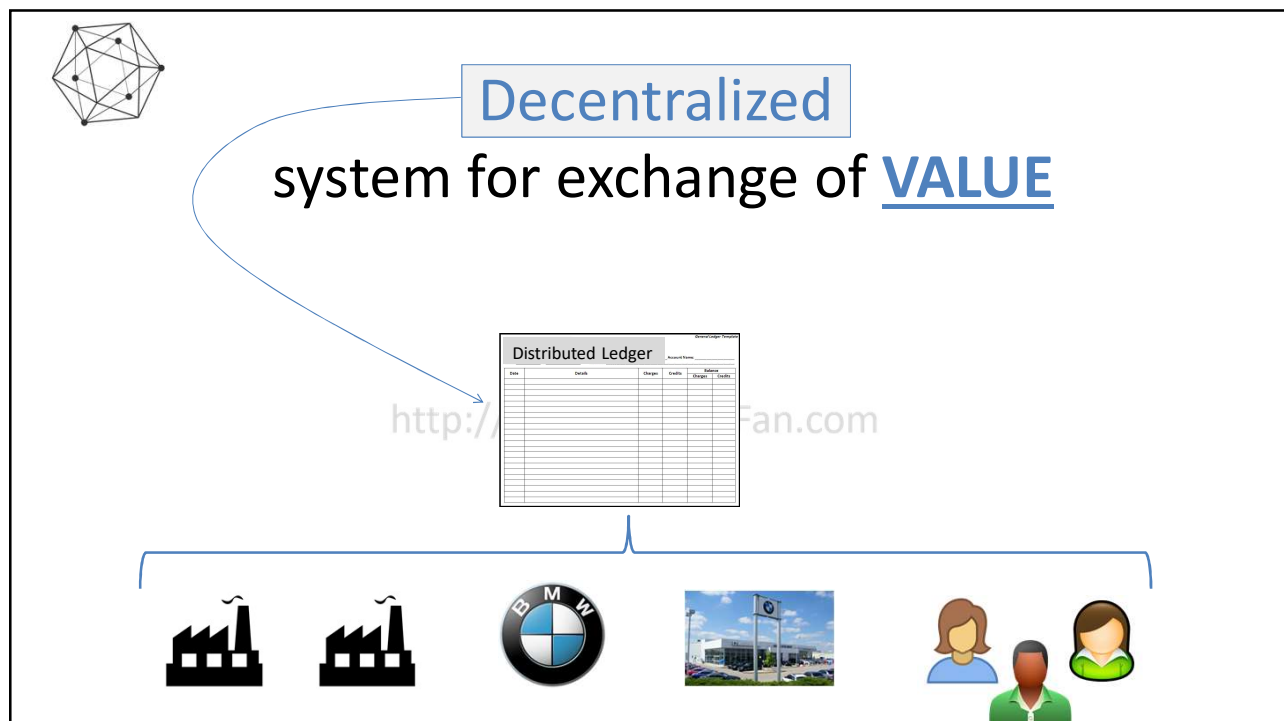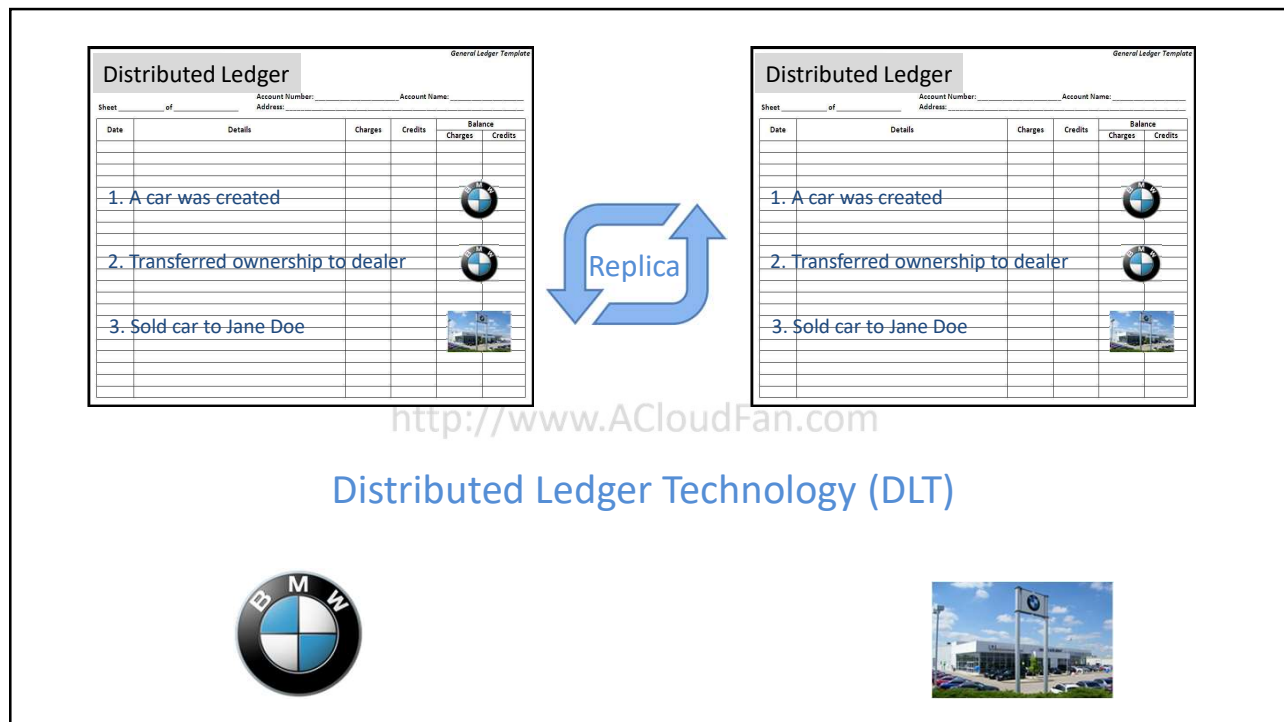
DLT for Business Applications

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Learning Objectives:

- Characteristics business applications

Fabric

HYPERLEDGER

❝ Distributed Ledger Technology for the Business

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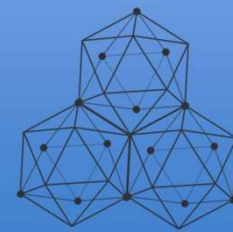
Public Blockhain Network = Anyone can participate and transact on the network

ETHEREUM   ₿ bitcoin

Fabric
HYPERLEDGER

Distributed Ledger Technology for the Business

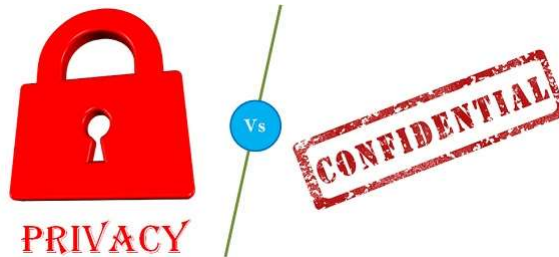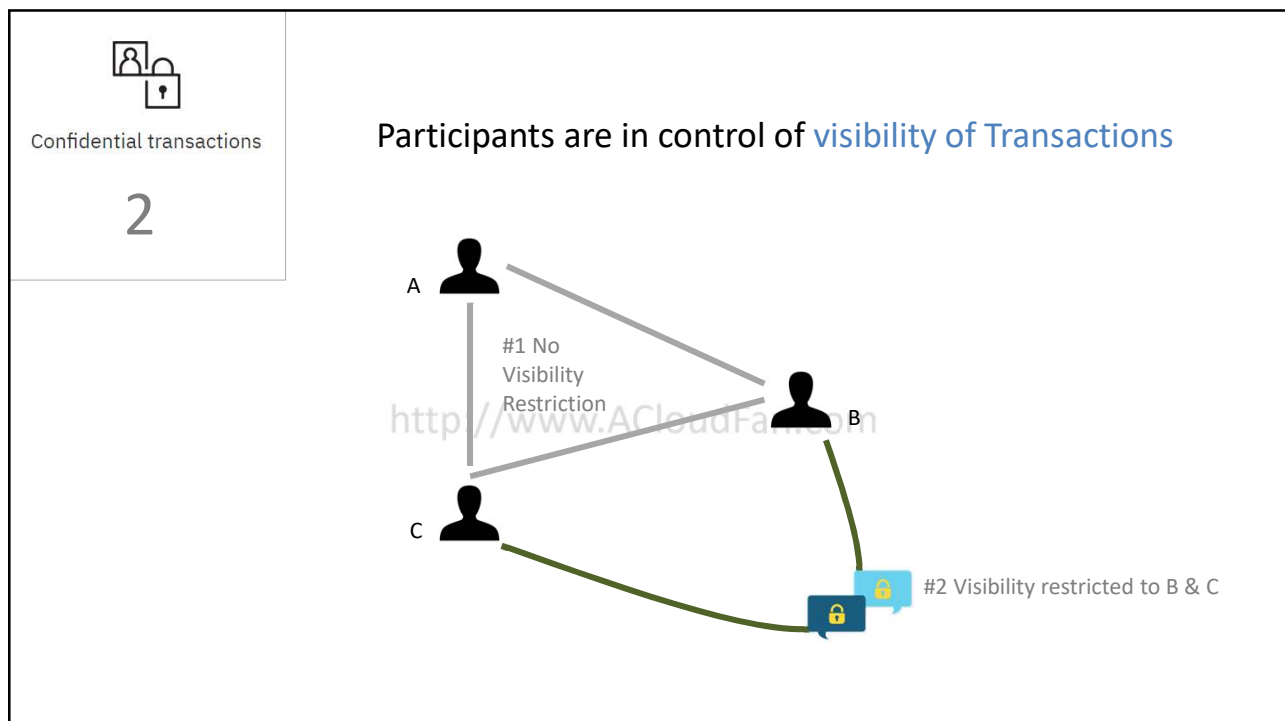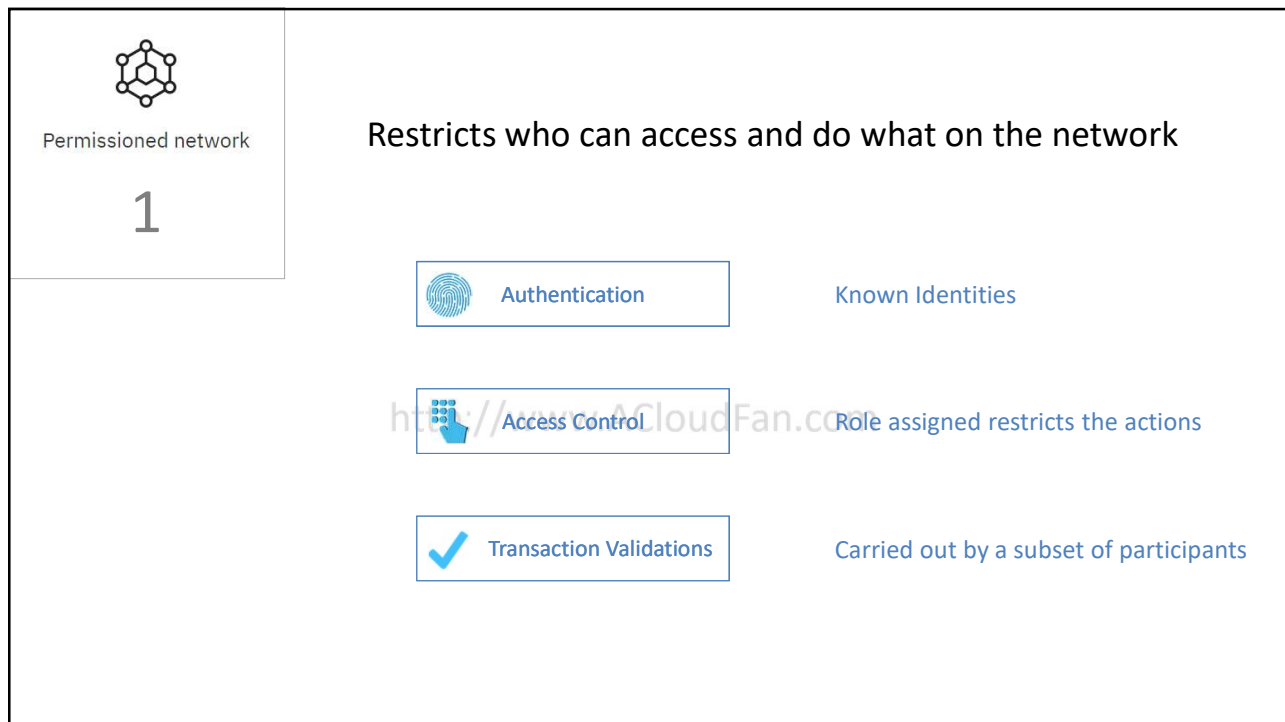| Permissioned network	Confidential transactions	No cryptocurrency	Programmable
1	2	3	4

Hyperledger Fabric establishes trust, transparency and accountability

PRIVACY   Vs   CONFIDENTIAL

Participant not visible to the public
but can decide to disclose identity
to trusted entities

Only authorized participants are allowed
to have access to the information

http://keydifferences.com/difference-between-privacy-and-confidentiality.html

Permissioned network

1

Restricts who can access and do what on the network

Authentication	Known Identities
Access Control	Role assigned restricts the actions
Transaction Validations	Carried out by a subset of participants

http://www.ACloudFan.com

Confidential transactions

2

Participants are in control of visibility of Transactions

A

#1 No Visibility Restriction

B

C

http://www.ACloudFan.com

#2 Visibility restricted to B & C

No cryptocurrency

3

No need to **incentivize** the network for validations
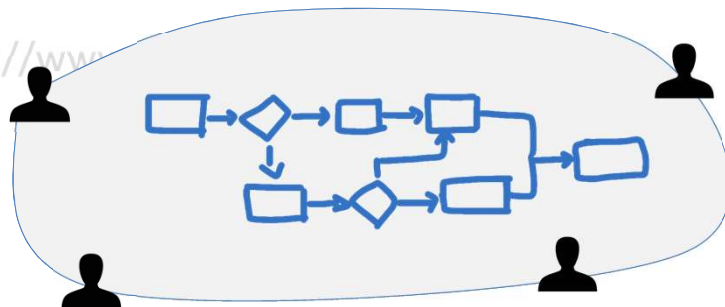
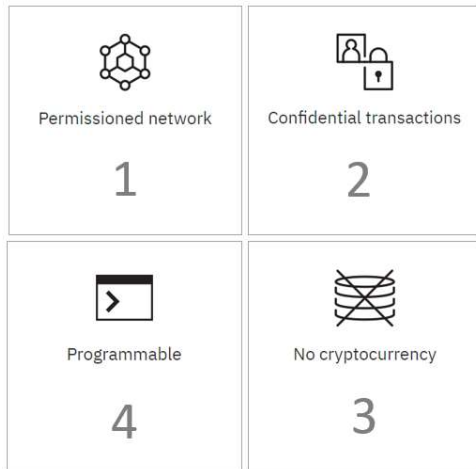**Participants decide the** who **&** how **of validation**

Programmable

4

Chaincode **= Smart Contract**

Chaincode automates **the business process**

Permissioned network	Confidential transactions
1	2
Programmable	No cryptocurrency
4	3

- Modular design

- Plug-&-Play Architecture

- Membership Services

- Private Channels

	Bitcoin	Ethereum	Fabric
Blockchain	Application	Platform	Framework
Network	Public	Public | Permissioned	Permissioned
Consensus	Proof of work	Proof of work	PBFT | Pluggable
Business Logic	✖	✔ Solidity, LLL, Serpent	✔ Go, Java, Javascript
Transaction	Anonymous	Anonymous | Private	Public | Confidential