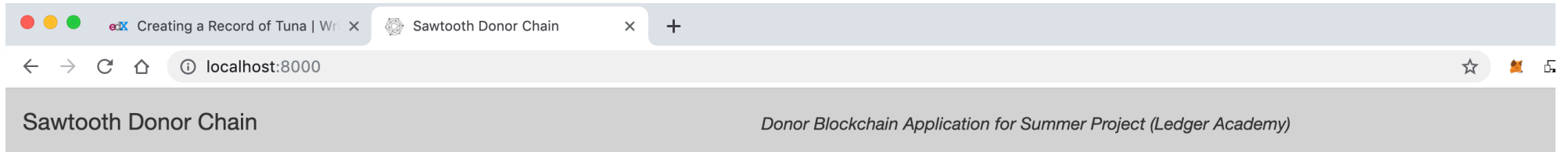


**Hyperledger Sawtooth  
Donor Blockchain for Summer Project  
(Ledger Academy)**

# Donor Blockchain - View



## Select Holder

035c28efa4d7ac48808d33046f37d39046ea051e3b4b74709c263f9965333856a5

## Create Donation Record

Enter asset name...

Create

## Transfer Donation

Select Asset...

Select recipient...

Transfer

## Accept Donation

## Donation List

Donation	Holder
Cereals and Pulses	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f
Canned Goods	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f

# Donor Blockchain - Donation record

Creating a Record of Tuna | Wri X

Sawtooth Donor Chain X +

localhost:8000

Sawtooth Donor ChainDonor Blockchain Application for Summer Project (Le

Select Holder

035c28efa4d7ac48808d33046f37d39046ea051e3b4b74709c263f9965333856a5

Create Donation Record

Perishable items

Create

Transfer Donation

Select Asset...

Select recipient...

Transfer

Accept Donation

Donation List

Donation	Holder
Cereals and Pulses	030836d9fb5a463c9c8ae781a37f784570c6
Canned Goods	030836d9fb5a463c9c8ae781a37f784570c6

# Donor Blockchain - Transfer

Creating a Record of Tuna | Wri x

Sawtooth Donor Chain x +

localhost:8000

Sawtooth Donor ChainDonor Blockchain Application for Summer Project (Ledger Academy)

Select Holder

035c28efa4d7ac48808d33046f37d39046ea051e3b4b74709c263f9965333856a5

Create Donation Record

Perishable items

Create

Transfer Donation

Perishable items

✓ Select recipient...

035c28efa4d7ac48808d33046f37d39046ea051e3b4b74709c263f9965333856a5

03f353828ffebe66defa2db9b84fc25b2b0c34a6c7c8b1824f656df0973443bbb3

030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f

Accept Donation

Donation List

Donation	Holder
Perishable items	035c28efa4d7ac48808d33046f37d39046ea051e3b4b74709c263f9965333856a5
Cereals and Pulses	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f
Canned Goods	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f

# Donor Blockchain - Accept Donation

Creating a Record of Tuna | W...

Sawtooth Donor Chain

localhost:8000

Sawtooth Donor Chain

Donor Blockchain Application for Summer Project (Ledger Academy)

Select Holder

03f353828ffebe66defa2db9b84fc25b2b0c34a6c7c8b1824f656df0973443bbb3

Create Donation Record

Perishable items

Create

Transfer Donation

Select Asset...

Select recipient...

Transfer

Accept Donation

Perishable items

Accept

Reject

Donation List

Donation	Holder
Perishable items	035c28efa4d7ac48808d33046f37d39046ea051e3b4b74709c263f9965333856a5
Cereals and Pulses	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f
Canned Goods	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f

# Donor Blockchain - Change in Holder

Creating a Record of Tuna | Wri x

Sawtooth Donor Chain x

+

localhost:8000

Sawtooth Donor Chain

Donor Blockchain Application for Summer Project (Ledger Academy)

Select Holder

03f353828ffebe66defa2db9b84fc25b2b0c34a6c7c8b1824f656df0973443bbb3

Create Donation Record

Perishable items

Create

Transfer Donation

Select Asset...

Select recipient...

Transfer

Accept Donation

Donation List

Donation	Holder
Perishable items	03f353828ffebe66defa2db9b84fc25b2b0c34a6c7c8b1824f656df0973443bbb3
Cereals and Pulses	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f
Canned Goods	030836d9fb5a463c9c8ae781a37f784570c6839c8d11de9245622c769a64ec584f

# Key Takeaways

Farmer records data for food supply treating that as a single **batch** of transactions. As a reminder, a **batch** is a cluster of transactions that are committed to state together. Using a batch, Farmer is able to record everything together, while still being able to specify data for each individual item. If one of the item transaction is invalid, the entire shipment is invalidated; that is, nothing within the batch of food supply is validated.

A Batch of many transactions can be submitted to the network, the network's consensus algorithm would choose a node to publish this batch as a block on the ledger

If the **Proof of Elapsed Time** consensus algorithm is used, the **validator** with the shortest wait time publishes the transaction block. The transaction block is then broadcasted to the publishing nodes.

To start, a user creates a batch containing one or more transactions, and submits it to a validator, usually via a client that communicates with a REST API. The validator then checks the transactions and applies the batch if all transactions are considered valid, resulting in a change to the state. In our case, Farmer creates a batch with attributes such as unique ID, farmer's name, location, food item specifics , timestamp , quantity etc. Depending on decision of what attributes are mandatory, a batch of transaction will be accepted by validated and applied and global state will be updated.

Currently, Hyperledger Sawtooth supports the following consensus implementations:

- **Proof of Elapsed Time**, or **PoET**, a Nakamoto-style consensus algorithm that is designed to be a production-grade protocol capable of supporting large networks
- **Dev mode**, a simplified random-leader algorithm that is useful for development and testing on single-node or small networks.

With PoET , we need to be mindful of forks being created . For our purpose, therefore Dev mode can make more sense .