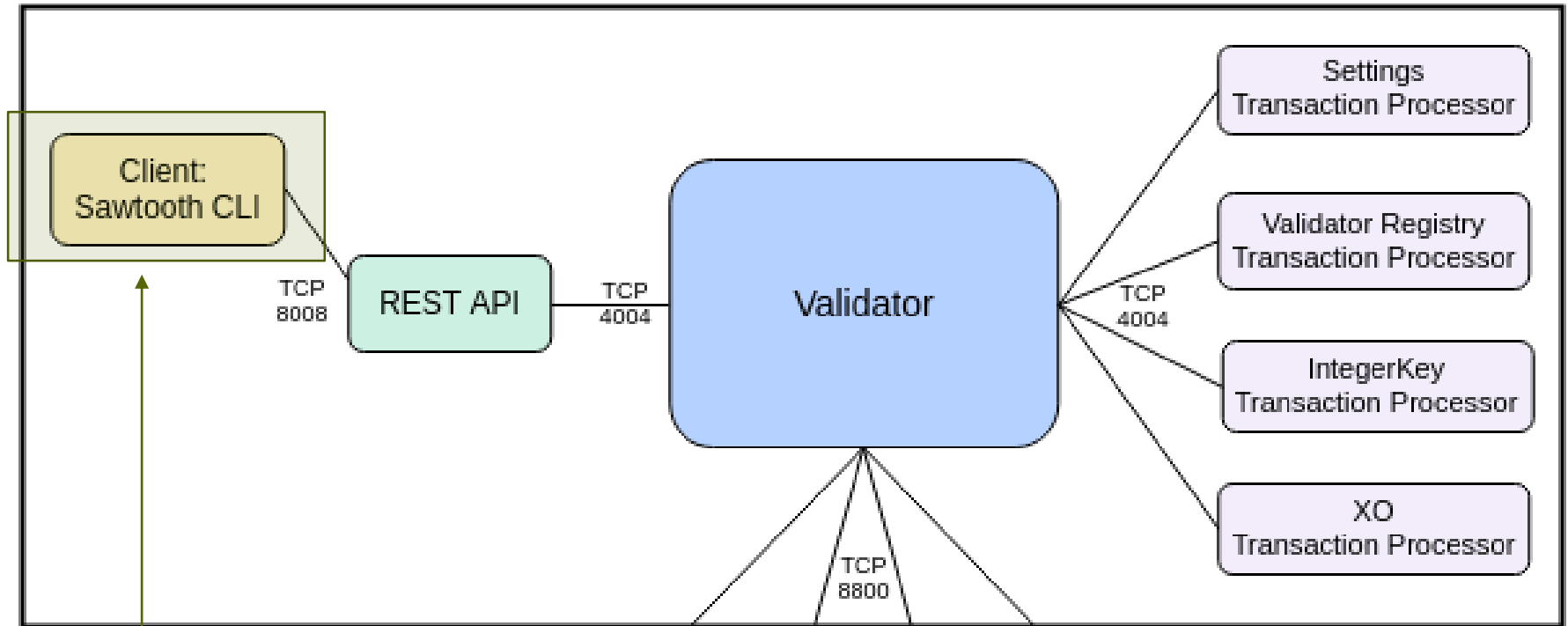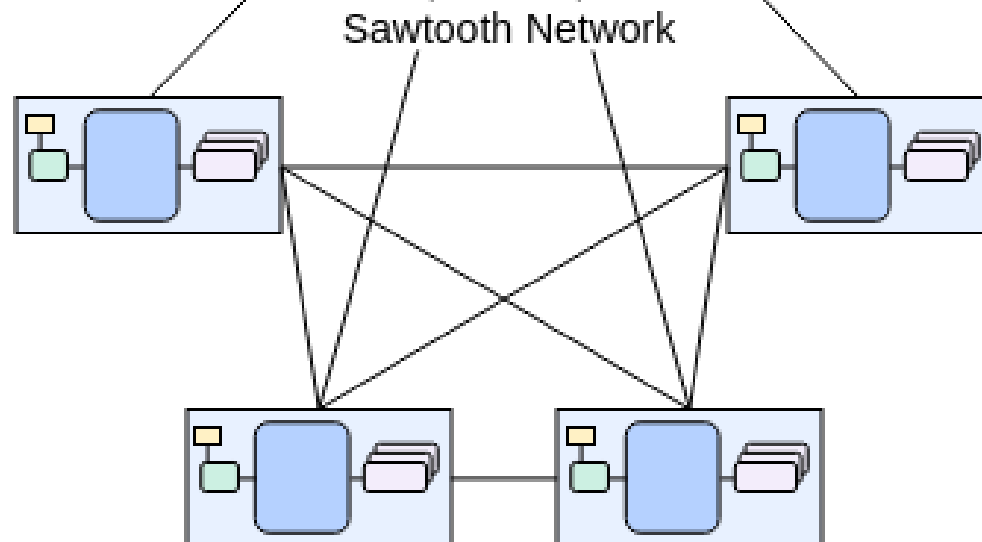# Hyperledger Sawtooth Python Labs

Application

- Task list
  - Create project
  - Create task
  - Add authorized users/contributors
  - Edit task
  - Progress task
- Write to Sawtooth APIs to construct application on top of its blockchain implementation
  - Note: For steps of the codelab requiring code, a corresponding commit to Bitbucket should be included upon completion of step
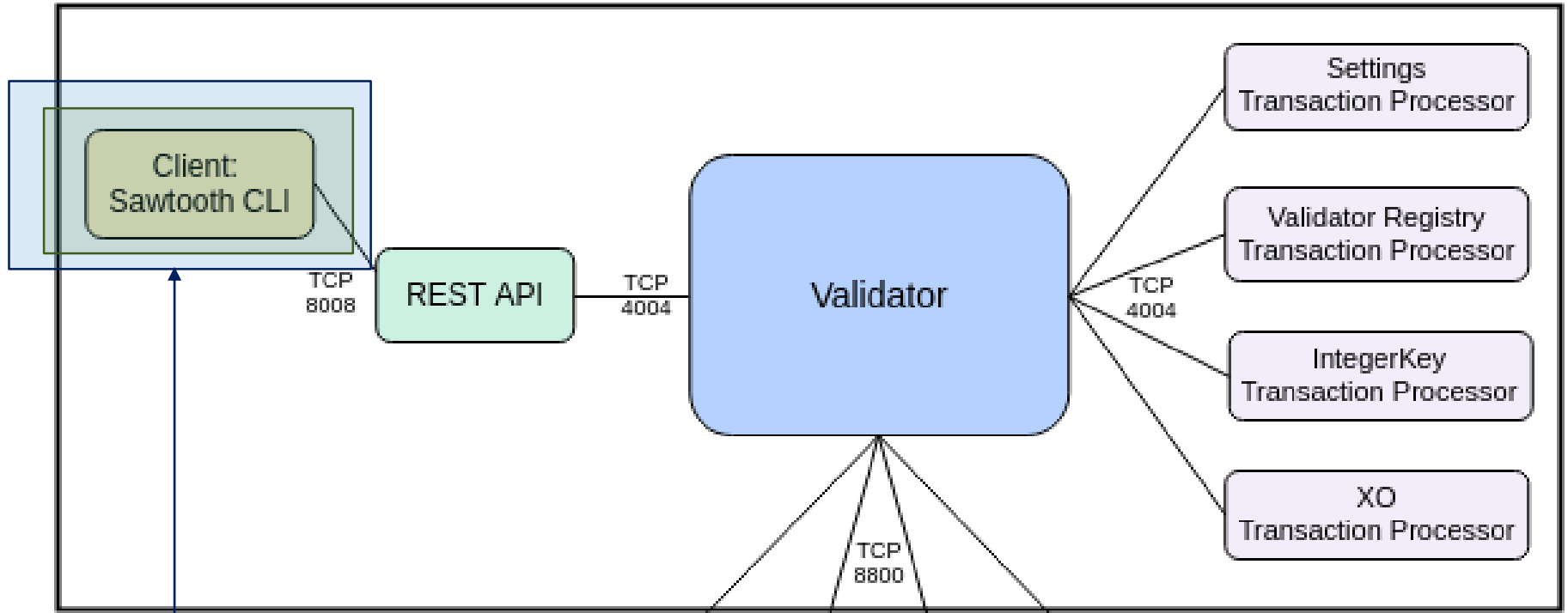
Validator Node

Client: Sawtooth CLI

REST API

TCP 8008

TCP 4004

Validator

TCP 4004

Settings Transaction Processor

Validator Registry Transaction Processor

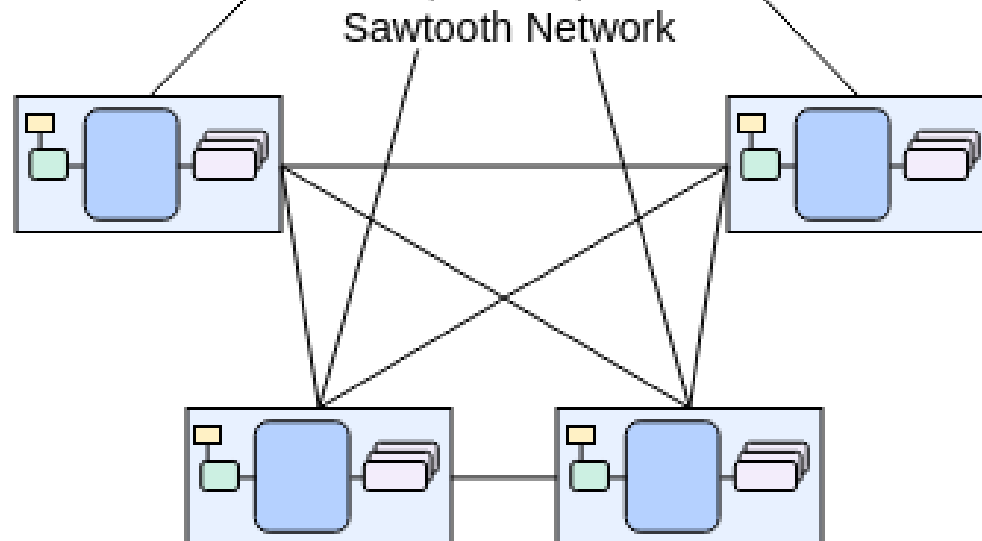IntegerKey Transaction Processor

XO Transaction Processor

TCP 8800

Sawtooth Network

Lab #1: Use Python to implement client actions for task application via a REST API to a hosted backend

Validator Node

Client:
Sawtooth CLI

TCP
8008

REST API

TCP
4004

Validator

Settings
Transaction Processor

Validator Registry
Transaction Processor

TCP
4004

IntegerKey
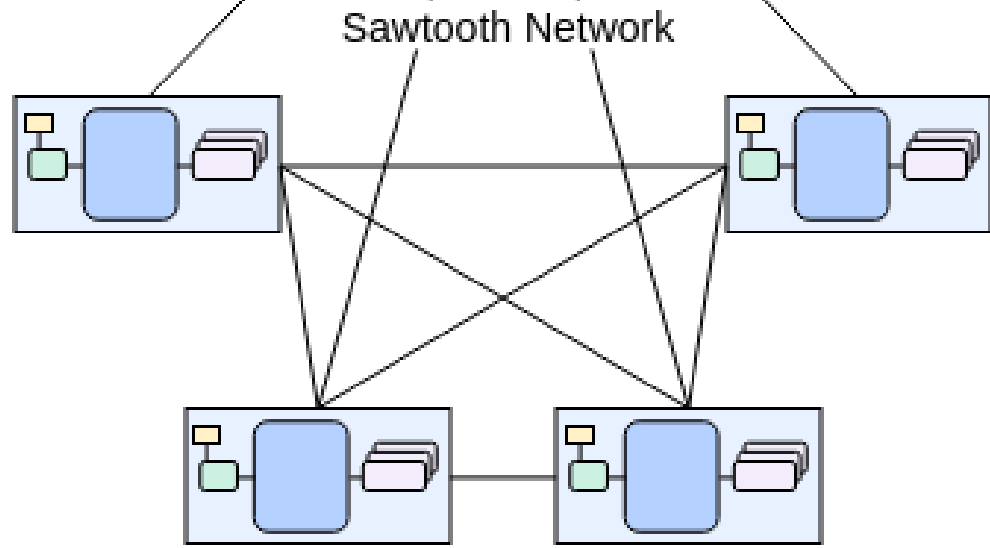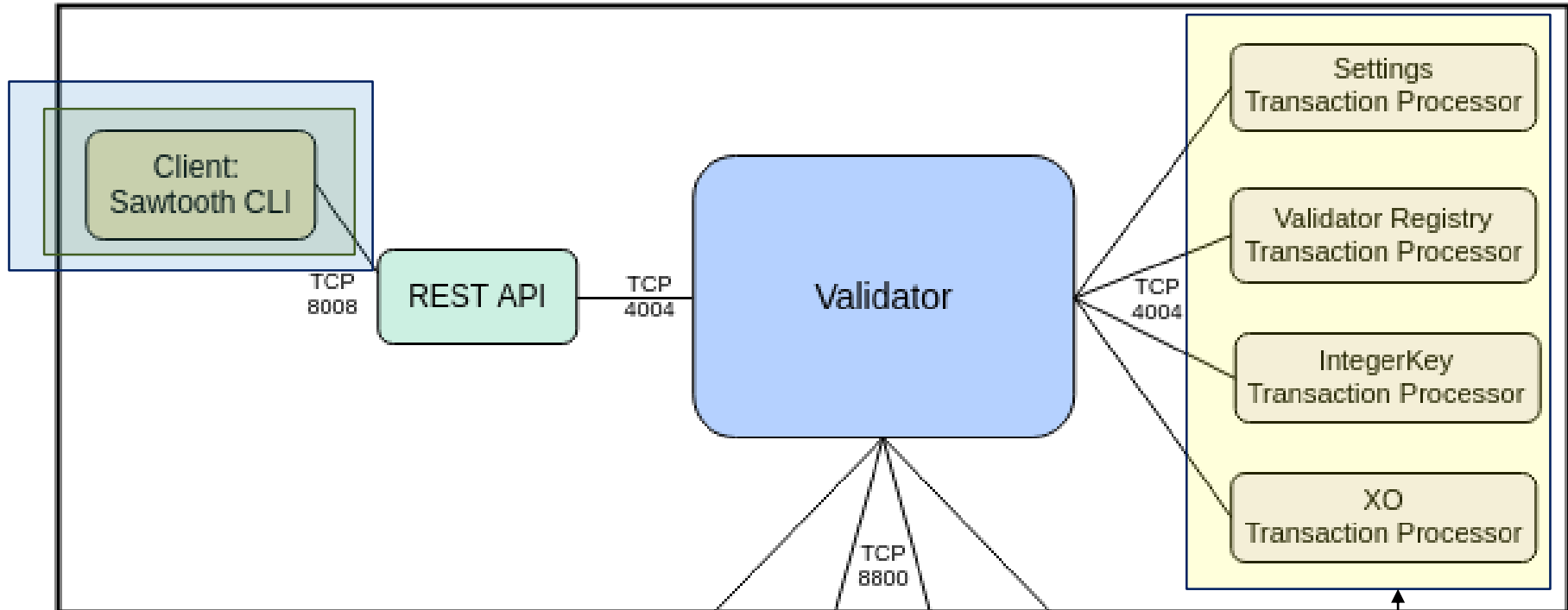Transaction Processor

XO
Transaction Processor

TCP
8800

Sawtooth Network

Lab #2: Build a
Python/Flask
web application
for initiating client
actions for task
application

Validator Node

Client: Sawtooth CLI

REST API

TCP 8008

TCP 4004

Validator

TCP 4004

Settings Transaction Processor

Validator Registry Transaction Processor

IntegerKey Transaction Processor

XO Transaction Processor

TCP 8800

Sawtooth Network

Lab #3: Build the transaction processor for validating client requests

Validator Node

Client: Sawtooth CLI

REST API

Validator

Settings Transaction Processor

Validator Registry Transaction Processor

IntegerKey Transaction Processor

XO Transaction Processor

TCP 8008

TCP 4004

TCP 4004

TCP 8800

Sawtooth Network
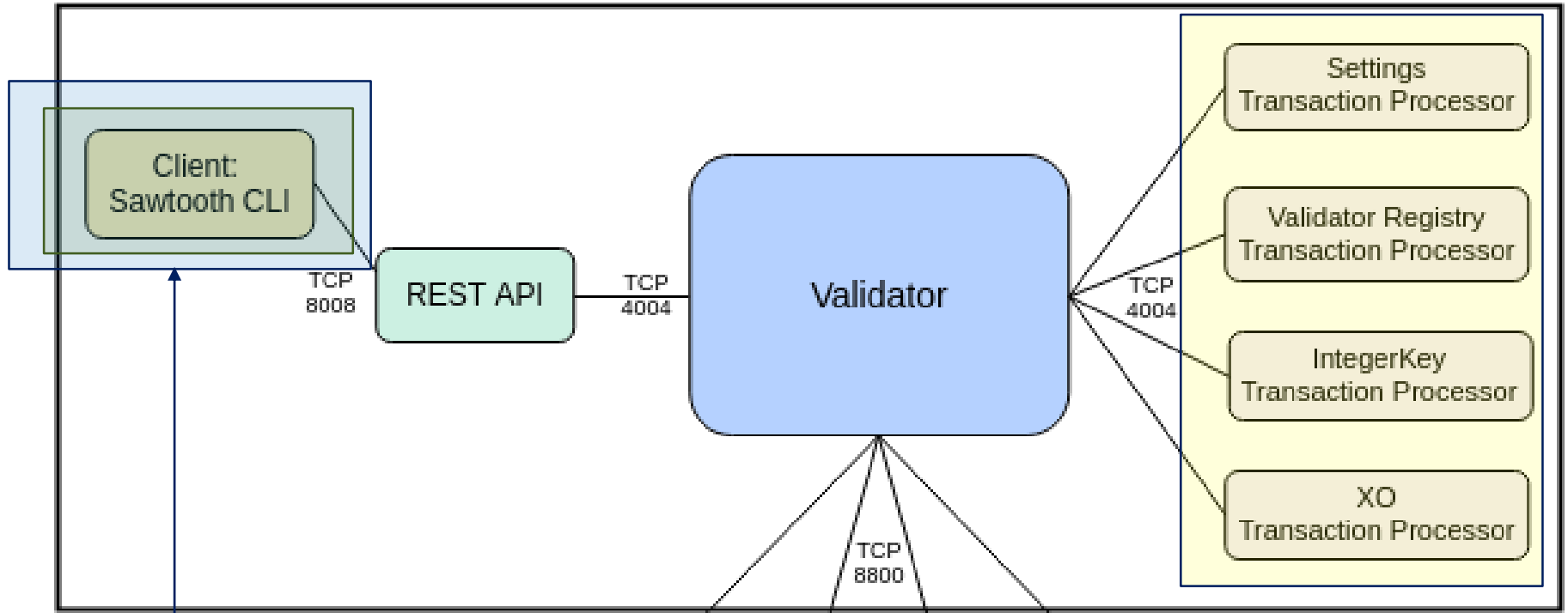
Lab #4: Build a Python/Flask web application for viewing application
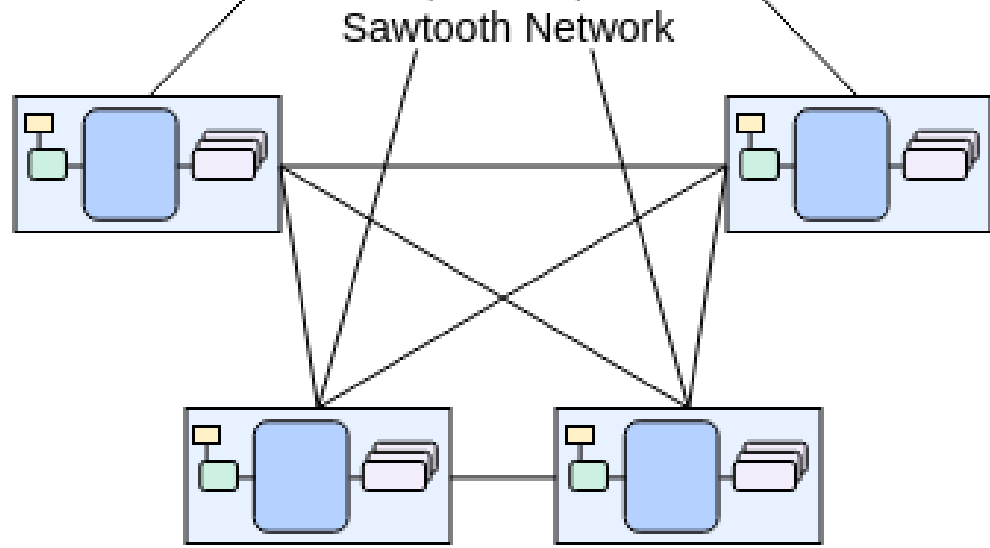
Hyperledger Sawtooth labs

- Lab 1.1
  - Build a Python client that inserts tasks into a hosted blockchain application
- Lab 1.2
  - Build a web interface for inserting tasks into a hosted blockchain
- Lab 1.3
  - Build the backend transaction processor to build your own hosted backend of the application
- Lab 1.4
  - End-to-end
- Copy code from course repo into individual directories within your repository under
  - `<repo>/sawtooth01`
  - `<repo>/sawtooth02`
  - `<repo>/sawtooth03`
  - `<repo>/sawtooth04`
  - Commit code added in each step of codelab into your repository
- Take screenshots of completion for your lab notebook