Publish Your Local Web Server to Web3 with Diode

Yahsin Huang / Diode (https://diode.io/)

Tuesday May 19th, 2020

9:00 pm Taiwan / 8:00 am Minneapolis, MN / 9:00 am Boston, MA / 3:00 pm Berlin

Diode's YouTube Channel

Yahsin Huang (https://yahsin.me/)

Involved in blockchain space since 2016.

Diode, IBTC: 2019-current

Helped start Taipei Ethereum in 2016.

Founded RadicalxChange Taipei in 2019.

Hiking, coffee, snoopy

Agenda

- Introduction
- Demo
- Q&A

Team

Hans Rempel, CEO and Co-Founder

Dominic Letz, CTO and Co-Founder

Peter Lai, Blockchain Engineer

Greg Belcher, VP Business Development

Yahsin Huang, Social Media Manager

Vision

Our vision is to see a thriving world wide network operating on fully decentralized infrastructure.

Demo

How to publish your local web server* to Web3 with Diode

Step 1 Download the Diode client (https://diode.io/download/)

Step 2 Initialize the Diode client (“diode init”)

Step 3 Publish your local port to the Diode Network (“diode publish”)

Step 4 Demo your website without deploying (https://<yoursite>.diode.link)

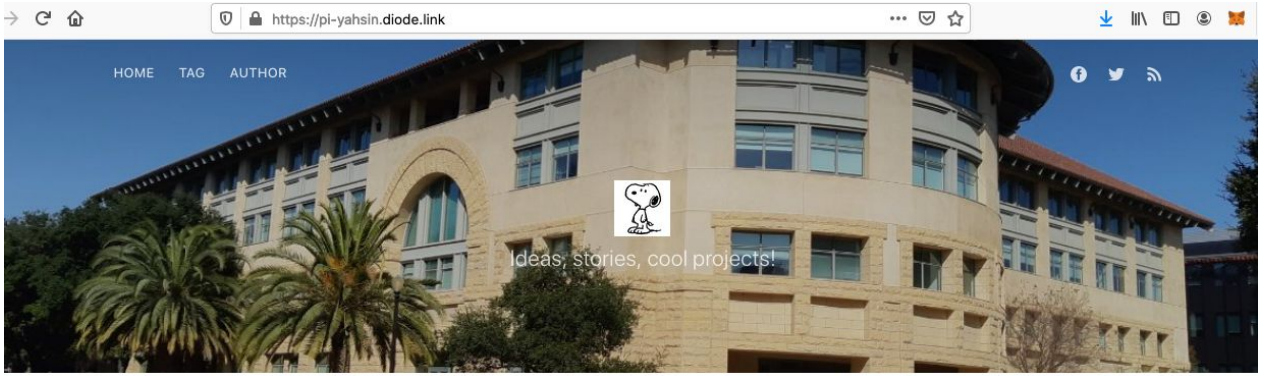
* This demo assumes you already have a local webserver up and running. We used https://ghost.org for ours

My Ghost blog is running on my computer: http://localhost:3000/

You can access the blog via the Diode network:

https://pi-yahsin.diode.link/

https://pi-yahsin.diode.link/



Yahsin's First Story

My First Story

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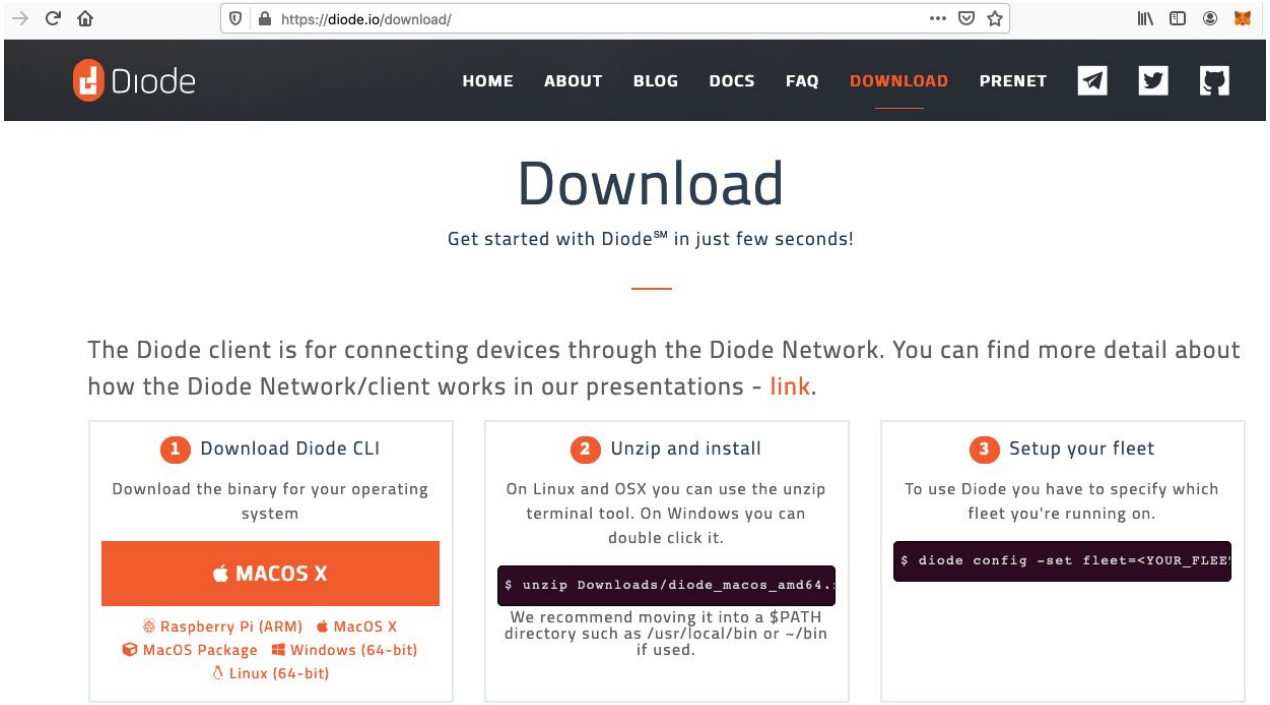
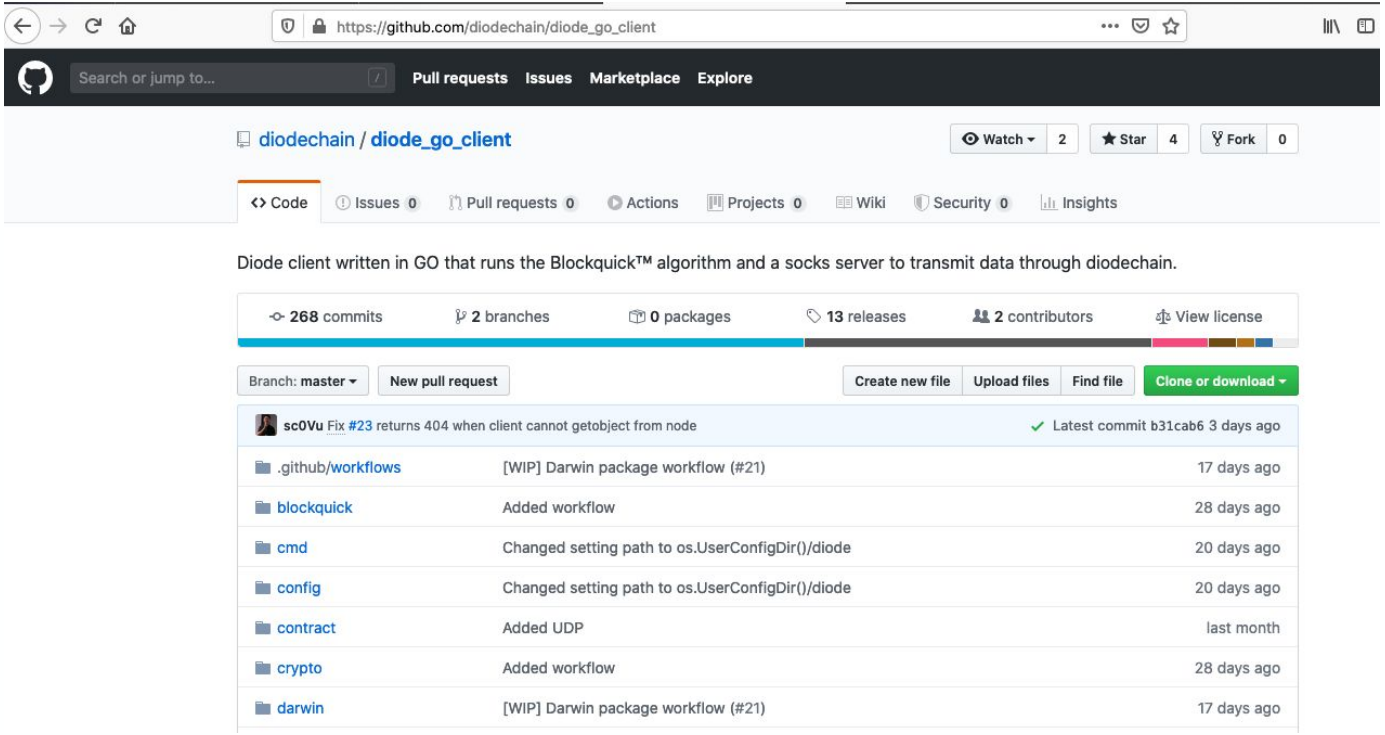
Step 1 Download Diode client: https://diode.io/download



Or, build from source: https://github.com/diodechain/diode_go_client



Step 2 Initialize the Diode client

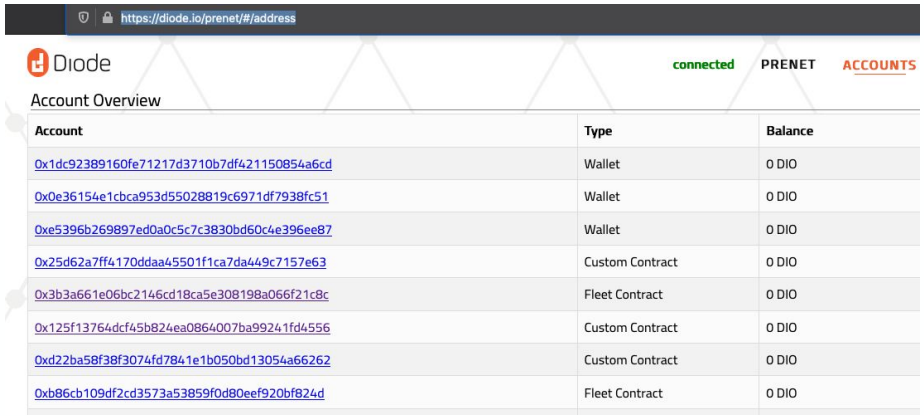
To initialize your Diode client, open a terminal window and type:

```
$ diode init
```

This does two things for you:

- It deploys a new Diode fleet contract (a blockchain smart contract that manages permissions)
- It whitelists the identity of your client (client address) in the Diode fleet contract

We can see the fleet contracts online: https://diode.io/prenet/#/address



- Diode's fleet contracts:
  - Manage a whitelist of identities (public keys) of clients who can communicate with each other
  - Have an API to configure secure communications: client registration, client deregistration, protected or private connections, and other functions.

Step 3 Publish your local port to the Diode Network

In your terminal window, type:

```
diode publish -public 3000:80
```

This binds your local port to a Diode port. We are publishing as “public” so anyone can view it (can also use “protected” or “private”)

Step 4 Demo your website without deploying

In your terminal window, look for the line “Client address: <address>”

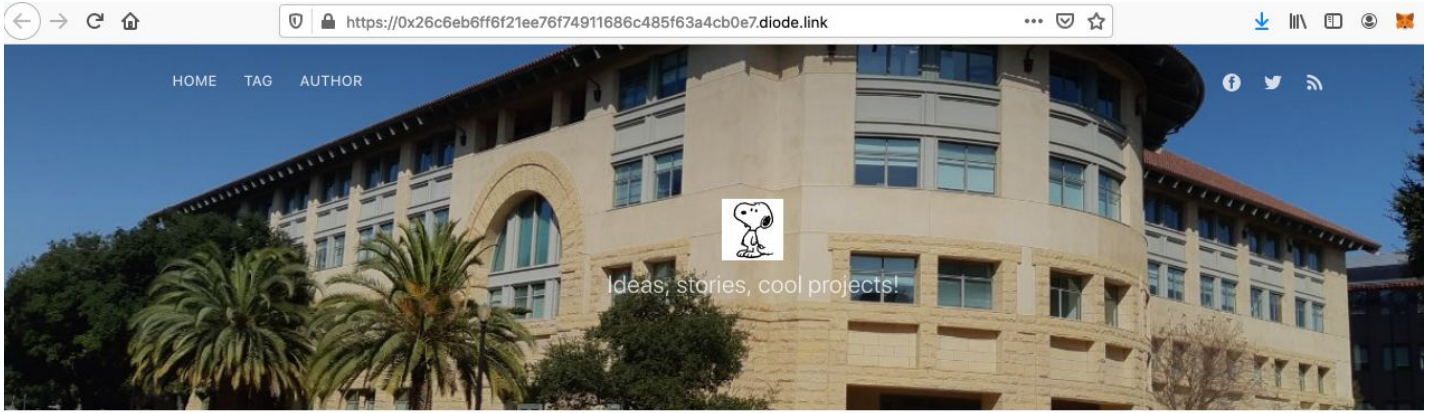
```
Exosites-MacBook-Air:~ exosite$ diode publish -public 3000:80
05/18/2020 22:51:45 [INFO] Checking for updates...                  module=main
05/18/2020 22:51:46 [INFO] No updates                               module=main
05/18/2020 22:51:46 [INFO] Diode Client version : v0.3.4
odule=main
05/18/2020 22:51:46 [INFO] Last valid block     : 265662 0x00004a69f0b06cd3fe925f2e0cdd5a6765e73
odule=main
05/18/2020 22:51:47 [INFO] Client address       : 0x26c6eb6ff6f21ee76f74911686c485f63a4cb0e7
odule=main
05/18/2020 22:51:47 [INFO] Fleet address        : 0x516a1e0eef49bc295141d27d57c6fe9ed0a3d1e4
```

Copy the <address> part (mine is 0x26c6eb6ff6f21ee76f74911686c485f63a4cb0e7)

Paste it into your webbrowser’s address bar, and add “.diode.link” afterwards

- https://0x26c6eb6ff6f21ee76f74911686c485f63a4cb0e7.diode.link
- You can see your website live from anywhere in the world!

https://0x26c6eb6ff6f21ee76f74911686c485f63a4cb0e7.diode.link/



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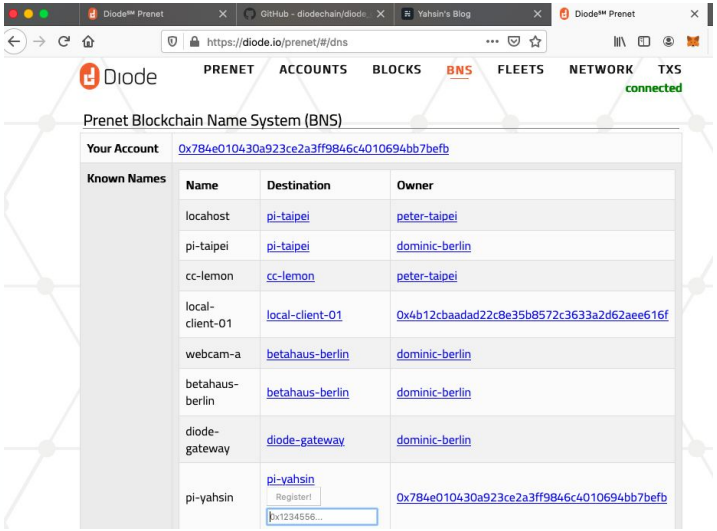
Bonus Configure a domain name

Your website address can use a human readable name.

Register your Blockchain Name System (BNS) custom domain*:

https://diode.io/prenet/#/dns

I chose “pi-yahsin” for my domain



* Requires Metamask (metamask.io)

Bonus Configure a domain name

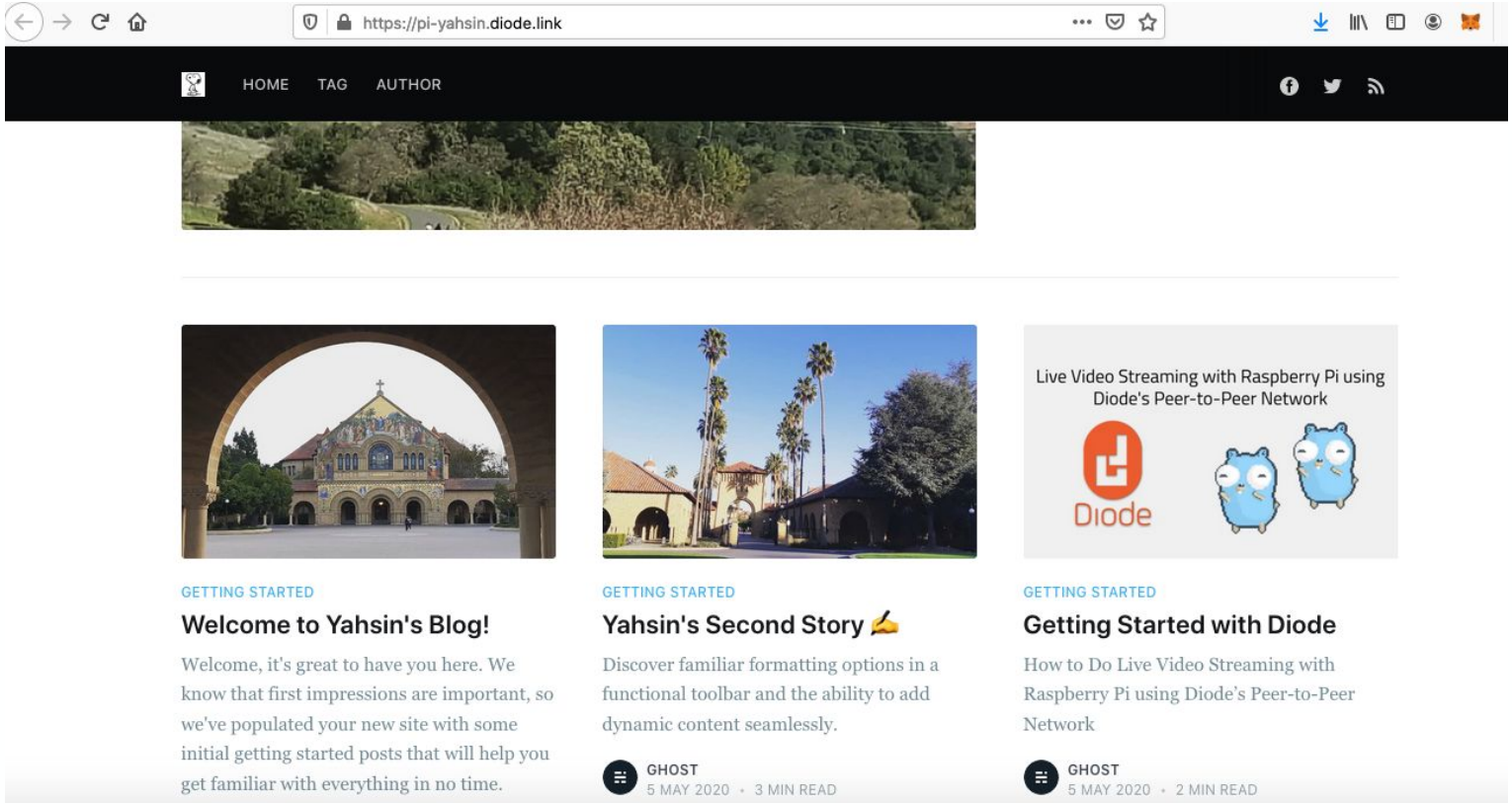
Use this command to register your Blockchain Name System (BNS) custom domain:

```
$ diode bns -register [name]=[address]
```

I typed

```
diode bns -register pi-yahsin=0x26c6eb6ff6f21ee76f74911686c485f63a4cb0e7
```

https://pi-yahsin.diode.link/



Questions?

We’d be happy to answer questions!

Hans Rempel, Dominic Letz, Peter Lai, Yahsin Huang

Q: Where did the name “Diode” come from?

Hans: […] It was a small electrical component that is fundamental to all electrical systems, and the use of the letters in the word kind of made an acronym for **“Distributed Internet Of DEvices”**. With the Diode tech, now all sorts of apps/devices/systems can interact directly with a public blockchain - cell phones, laptops, Raspberry Pis, arduinos, etc… can all interact as part of a decentralized Web3 ecosystem.

Q: Is Diode something similar to IPFS?

Hans: IPFS is about **static** file storage - it does that really well. Diode is more of a streaming network - the Diode network doesn't store information, it makes it available. We've been tossing around ideas about federations with IPFS and other blockchain-first distributed infrastructure - we feel that future is an exciting one.

One of the great things that Diode brings that I believe is unique is the ability for distributing **dynamic** content. So, one of our first proof of concepts was a Raspberry Pi streaming real time video peer-to-peer over the Diode network with no centralized components. The Pi did the work to create the content and "source" the video, but the network handled the routing, permissions, and distribution.

Q: Since there are several tools already pretty available to developers today, is it really necessary to do it with blockchain technology?

Hans: It is certainly not necessary, but there are advantages that we think will make this specific use case more attractive than the ones on the market today. Three of the immediate feature adds vs. other solutions are: you can publish content to a globally unique “domain” name of your choice, it's free, and if you want to limit access to just a few viewers, you can do that regardless of the IP they are on.

Because the tech is fully decentralized, it also has benefits for privacy. If a person wanted to publish a website - as a dev tool for localhost development, or as a long term site - they can do so with the only information about the website (other than its content) being the Diode address (just like an ETH public address). No ICANN registration, personal details, etc….

Q: How would you persuade software engineers and business leaders to assess the potential of Diode blockchain for their businesses?

Hans: I think the persuasion of software engineers and business leaders will be a road we have to travel. The word “blockchain”, frankly speaking, scares some people from industry. However, there are a growing number of developers who are not blockchain developers, but who are interested in blockchain. Because we can support the tech these people are used to working with blockchain, we believe these people will be early adopters and be one of the paths to mainstream adoption. I’m very excited about bringing the blockchain and non-blockchain development worlds together - we have a ways to go in terms of UX, but the fundamentals are there and will get stronger over time.

Diode

Download Diode Client

https://diode.io/download/

https://diode.io

https://t.me/diode_chain

https://twitter.com/diode_chain

https://www.linkedin.com/company/diode-chain