



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

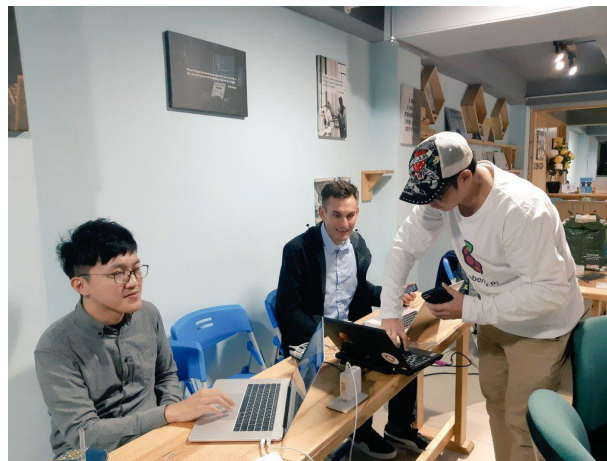
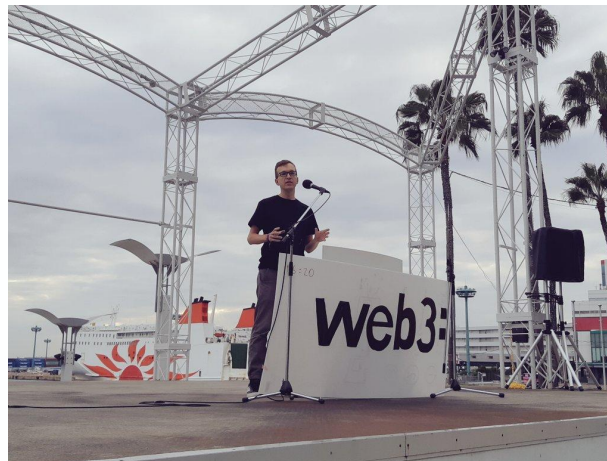
Hans Rempel, CEO and Co-Founder

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

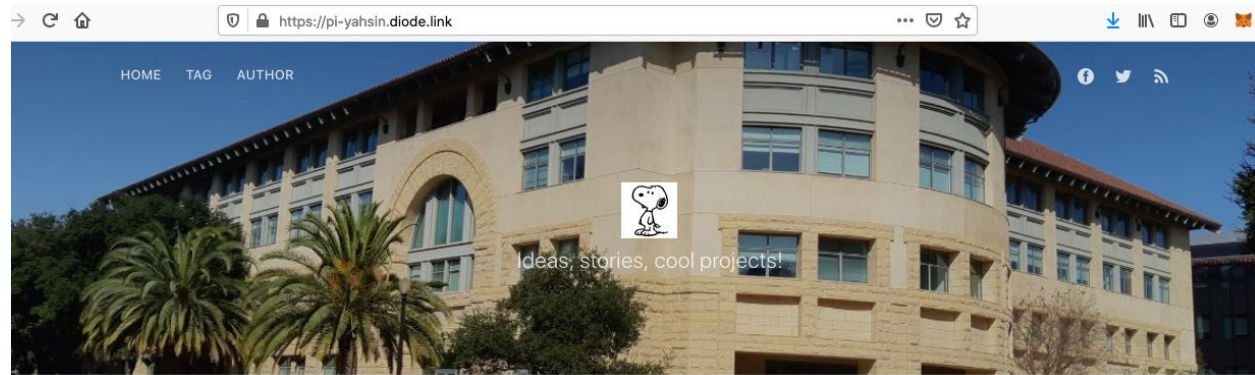
My Ghost blog is running on my computer: `http://localhost:3000/`

You can access the blog via the Diode network:

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



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



Yahsin's First Story

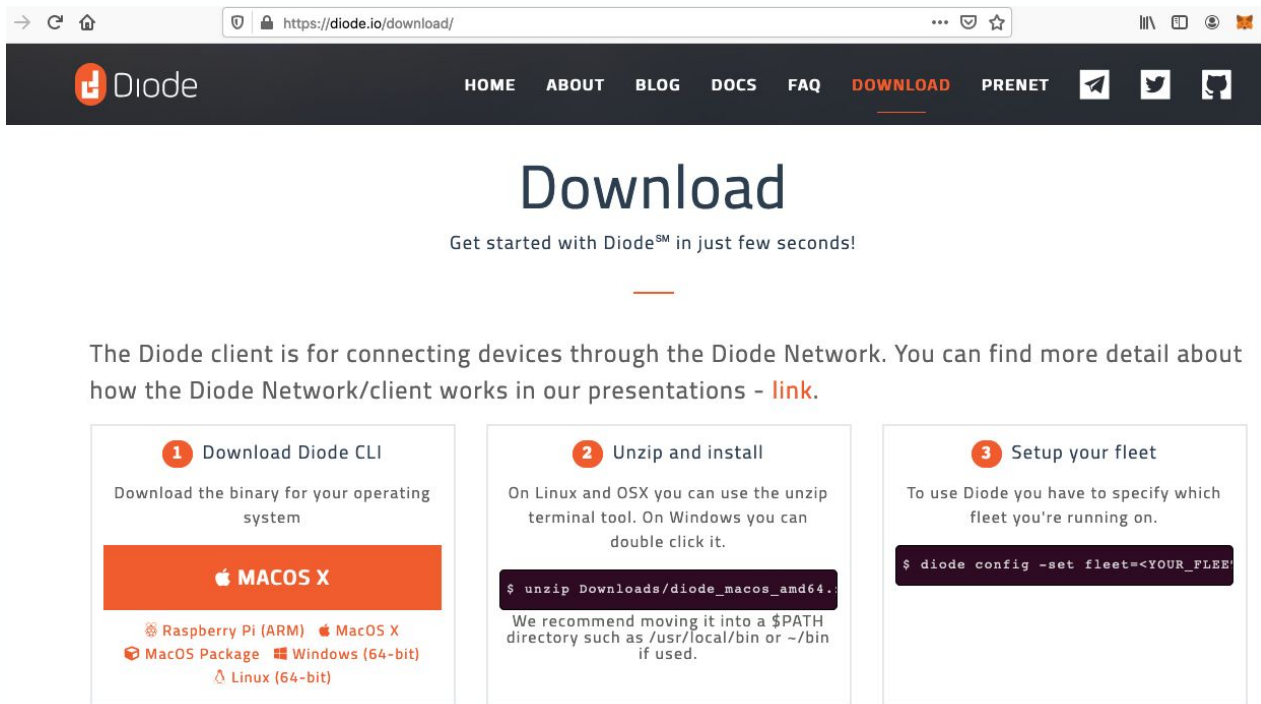
My First Story



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



The screenshot shows the Diode.io website's download page. The browser's address bar displays 'https://diode.io/download/'. The website has a dark navigation bar with links: HOME, ABOUT, BLOG, DOCS, FAQ, DOWNLOAD (highlighted), and PRENET. Below the navigation bar, the word 'Download' is prominently displayed in a large, dark font. Underneath it, a sub-header reads 'Get started with DiodeSM in just few seconds!'. A paragraph of text explains that the Diode client is for connecting devices through the Diode Network and provides a link for more details. Below this, there are three numbered steps in orange circles: 1. Download Diode CLI, 2. Unzip and install, and 3. Setup your fleet. Step 1 includes a 'MACOS X' button and lists other operating systems: Raspberry Pi (ARM), MacOS X, MacOS Package, Windows (64-bit), and Linux (64-bit). Step 2 shows a terminal command to unzip the macOS binary and a recommendation to move it to a specific directory. Step 3 shows a terminal command to configure the fleet.

1 Download Diode CLI

Download the binary for your operating system

MACOS X

Raspberry Pi (ARM) MacOS X
MacOS Package Windows (64-bit)
Linux (64-bit)

2 Unzip and install

On Linux and OSX you can use the unzip terminal tool. On Windows you can double click it.

```
$ unzip Downloads/diode_macos_amd64.
```

We recommend moving it into a \$PATH directory such as /usr/local/bin or ~/bin if used.

3 Setup your fleet

To use Diode you have to specify which fleet you're running on.

```
$ diode config -set fleet=<YOUR_FLEET>
```

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

The screenshot shows the GitHub repository page for `diodechain/diode_go_client`. The repository is described as "Diode client written in GO that runs the Blockquick™ algorithm and a socks server to transmit data through diodechain." It has 268 commits, 2 branches, 0 packages, 13 releases, and 2 contributors. The commit history table is as follows:

Commit	Description	Time
sc0Vu	Fix #23 returns 404 when client cannot getobject from node	Latest commit b31cab6 3 days ago
[WIP]	Darwin package workflow (#21)	17 days ago
blockquick	Added workflow	28 days ago
cmd	Changed setting path to os.UserConfigDir()/diode	20 days ago
config	Changed setting path to os.UserConfigDir()/diode	20 days ago
contract	Added UDP	last month
crypto	Added workflow	28 days ago
darwin	[WIP] Darwin package workflow (#21)	17 days ago

Step 2 Initialize the Diode client

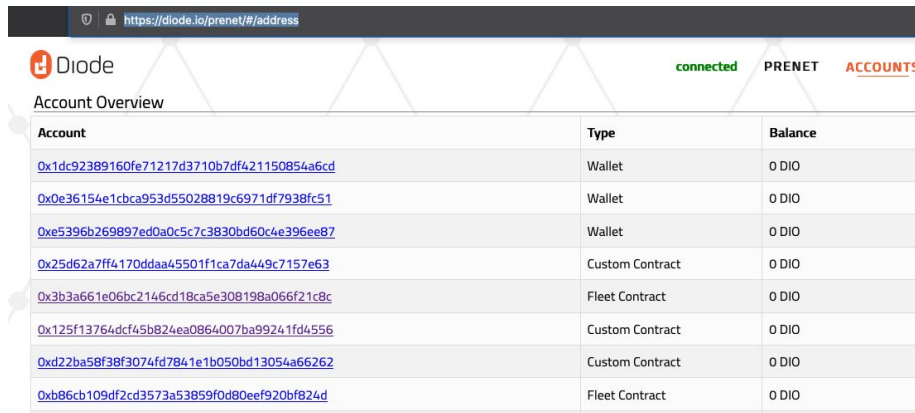
To initialize your Diode client, open a terminal window and type:

```
$ 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>



The screenshot shows the Diode web interface. At the top, there's a navigation bar with the Diode logo, a 'connected' status indicator, and links for 'PRENET' and 'ACCOUNTS'. Below the navigation bar, the 'Account Overview' section is visible. It contains a table with three columns: 'Account', 'Type', and 'Balance'. The table lists several accounts, including three wallets and five fleet contracts. Each account entry is preceded by a blue link to its details page.

Account	Type	Balance
0x1dc92389160fe71217d3710b7df421150854a6cd	Wallet	0 DIO
0x0e36154e1cbca953d55028819c6971df7938fc51	Wallet	0 DIO
0xe5396b269897ed0a0c5c7c3830bd60c4e396ee87	Wallet	0 DIO
0x25d62a7ff4170ddaa45501f1ca7da449c7157e63	Custom Contract	0 DIO
0x3b3a661e06bc2146cd18ca5e308198a066f21c8c	Fleet Contract	0 DIO
0x125f13764dcf45b824ea0864007ba99241fd4556	Custom Contract	0 DIO
0xd22ba58f38f3074fd7841e1b050bd13054a66262	Custom Contract	0 DIO
0xb86cb109df2cd3573a53859f0d80eef920bf824d	Fleet Contract	0 DIO

- 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>”

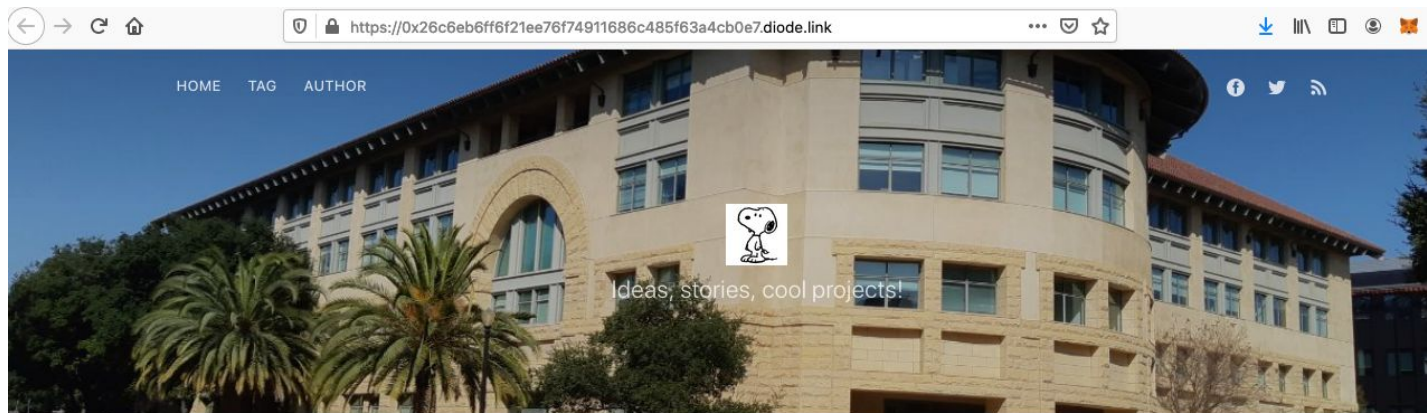
```
Exosites-MacBook-Air:~ exosite$ diode publish -public 3000:80
05/18/2020 22:51:45 [INFO] Checking for updates...           module=main
05/18/2020 22:51:46 [INFO] No updates                       module=main
05/18/2020 22:51:46 [INFO] Diode Client version : v0.3.4
odule=main
05/18/2020 22:51:46 [INFO] 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/>



Yahsin's First Story

My First Story



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Bonus Configure a domain name

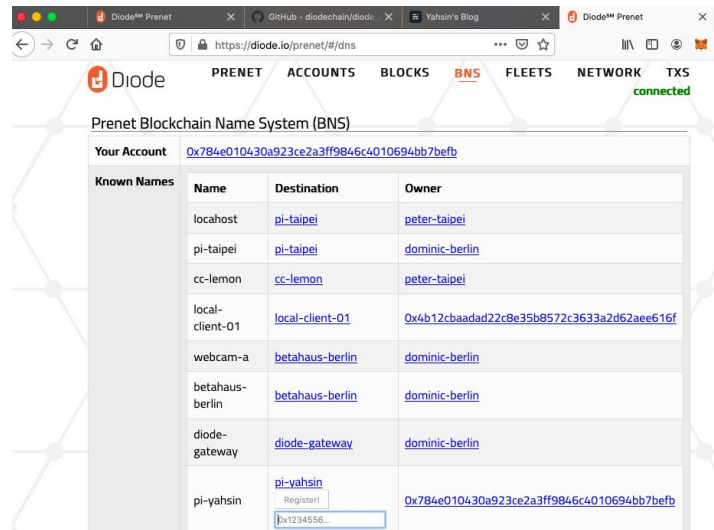
Your website address can use a human readable name.

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/>


← → ↻ 🏠 🔒 https://pi-yahsin.diode.link/ ⋮ 📑 ⌂ 📷 🐞 🦊


📷 HOME TAG AUTHOR 📱 🐦 📡





GETTING STARTED
Welcome to Yahsin's Blog!
Welcome, it's great to have you here. We know that first impressions are important, so we've populated your new site with some initial getting started posts that will help you get familiar with everything in no time.


GETTING STARTED
Yahsin's Second Story 🍌
Discover familiar formatting options in a functional toolbar and the ability to add dynamic content seamlessly.


GETTING STARTED
Getting Started with Diode
How to Do Live Video Streaming with Raspberry Pi using Diode's Peer-to-Peer Network

 **GHOST**
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 **GHOST**
5 MAY 2020 • 2 MIN READ

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.



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>