

Manual for Alpha Testing of Auditchain Pacioli Validators and Data Subscribers

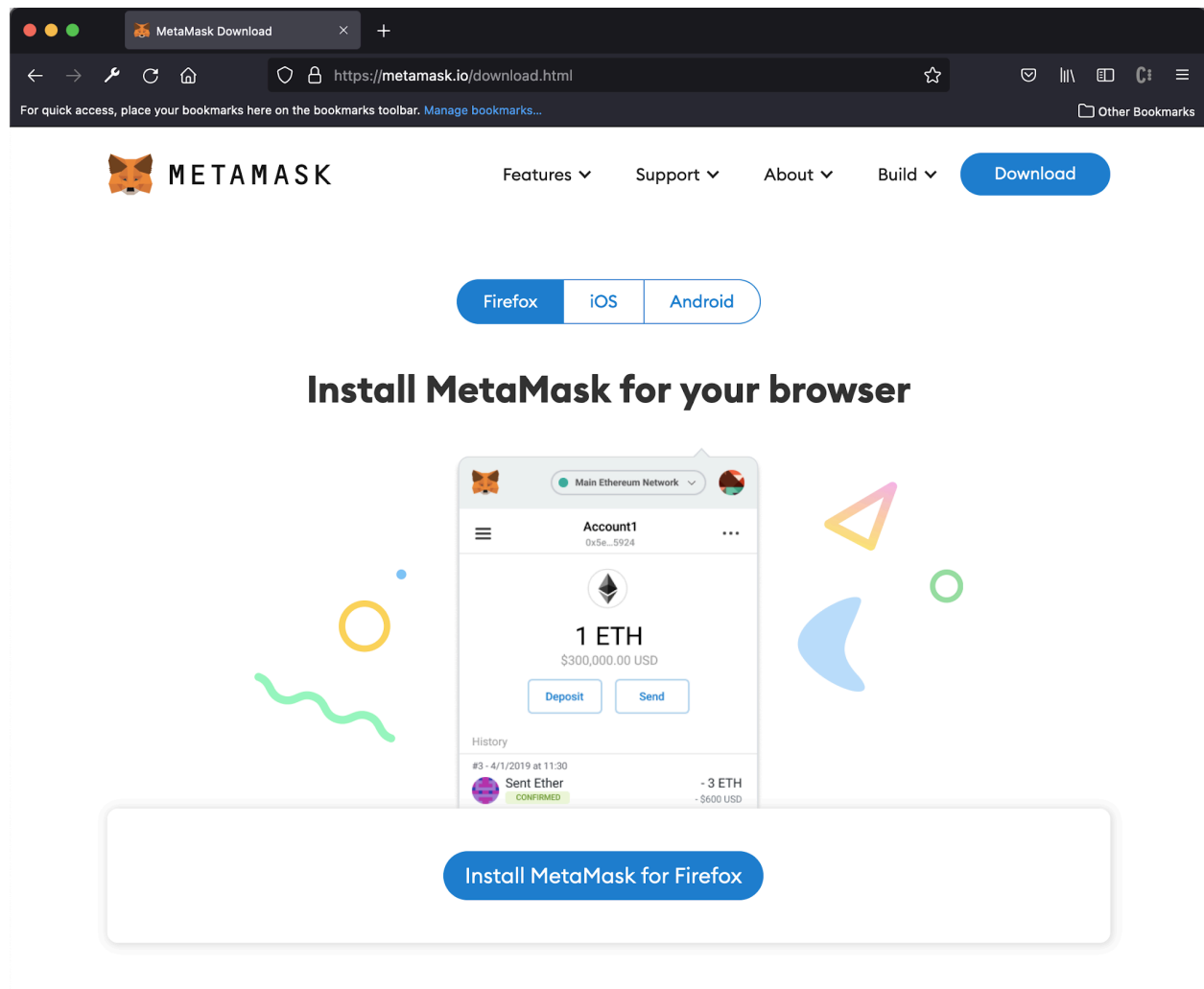


Setting up a Pacioli Node

1. Install MetaMask

Visit <https://MetaMask.io/>, click download and click install.

Follow the instructions to setup MetaMask. If there are no instructions, click the fox icon on the top right of your browser to setup MetaMask.



Following the installation of Metamask, add the Mumbai Test Network on Polygon to your list of networks in Metamask by following the instructions here <https://docs.polygon.technology/docs/develop/metamask/config-polygon-on-metamask/>

2. Import data subscriber private key into MetaMask and label it

Open MetaMask and click the colorful circle in the top right, then click import account. Paste your "Data Subscriber Private Key" into the field and click import.

here'. A 'Select Type' dropdown is set to 'Private Key'. A text field labeled 'Paste your private key string here:' contains a series of dots. At the bottom are 'Cancel' and 'Import' buttons." data-bbox="117 332 420 730"/>

Import Account

Imported accounts will not be associated with your originally created MetaMask account Secret Recovery Phrase. Learn more about imported accounts [here](#)

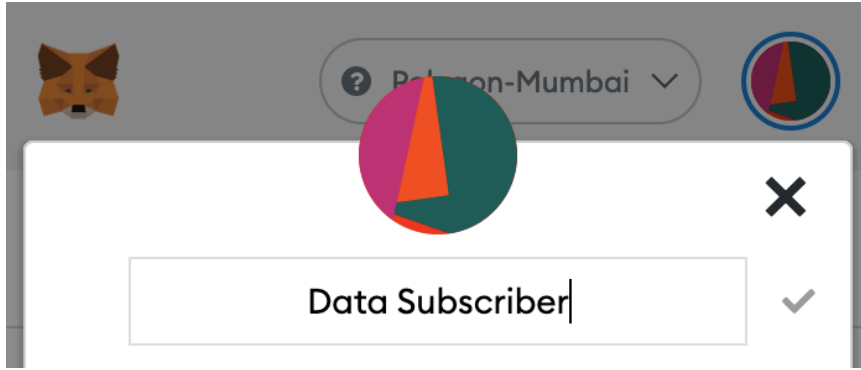
Select Type Private Key

Paste your private key string here:

.....

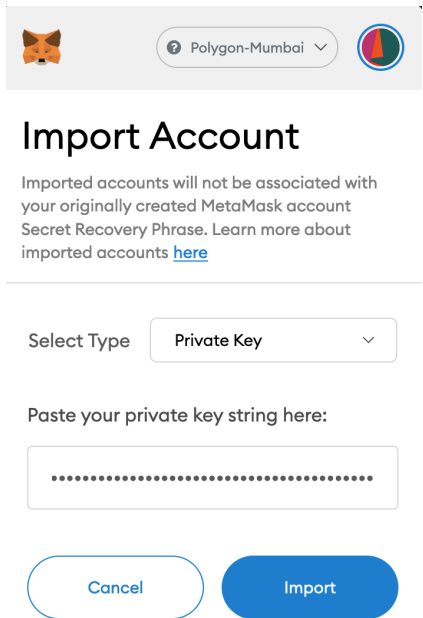
Cancel Import

Click the colorful circle in the top right and select the last account, then click the "3 vertical dots" menu. Click "account details." Next to the account name, click the pencil. In the text field, enter "You Name Data Subscriber"

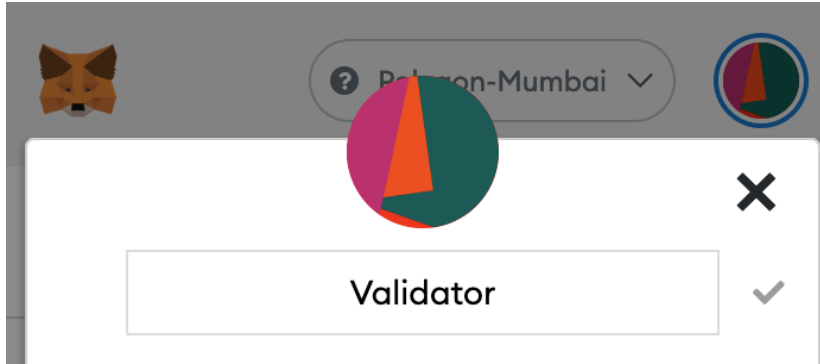


3. import validator private key into MetaMask

Open MetaMask and click the colorful circle in the top right, then click import account. Paste your "Validator Private Key" into the field and click import.



Click the colorful circle in the top right and select the last account, then click the "3 vertical dots" menu. Click "account details." Next to the account name, click the pencil. In the text field, enter "Validator."



4. Add AUDT token to MetaMask

Click the fox icon to open MetaMask. At the bottom of the panel, click "Import Tokens". Enter the token address provided to you.

AUDT Token Address on Polygon Mumbai to Metamask:
0xF0b5465547209A274aF4Fc92056b1c5604E30120

Verify AUDT is visible in the "assets" tab in MetaMask. Your private key was allotted AUDT on this network for testing purposes.



Polygon-Mumbai



Import Tokens

Custom Token

i Anyone can create a token, including creating fake versions of existing tokens. Learn more about [scams](#) and [security risks](#).

Token Contract Address

i0deb7c4c3a5DCFBb06618d389DC255b

Token Symbol

AUDT

Edit

Token Decimal

Add Custom Token



Polygon-Mumbai



Not connected

Validator 1
0x5A8...87f6



1.1507 MATIC


Buy


Send


Swap

Assets

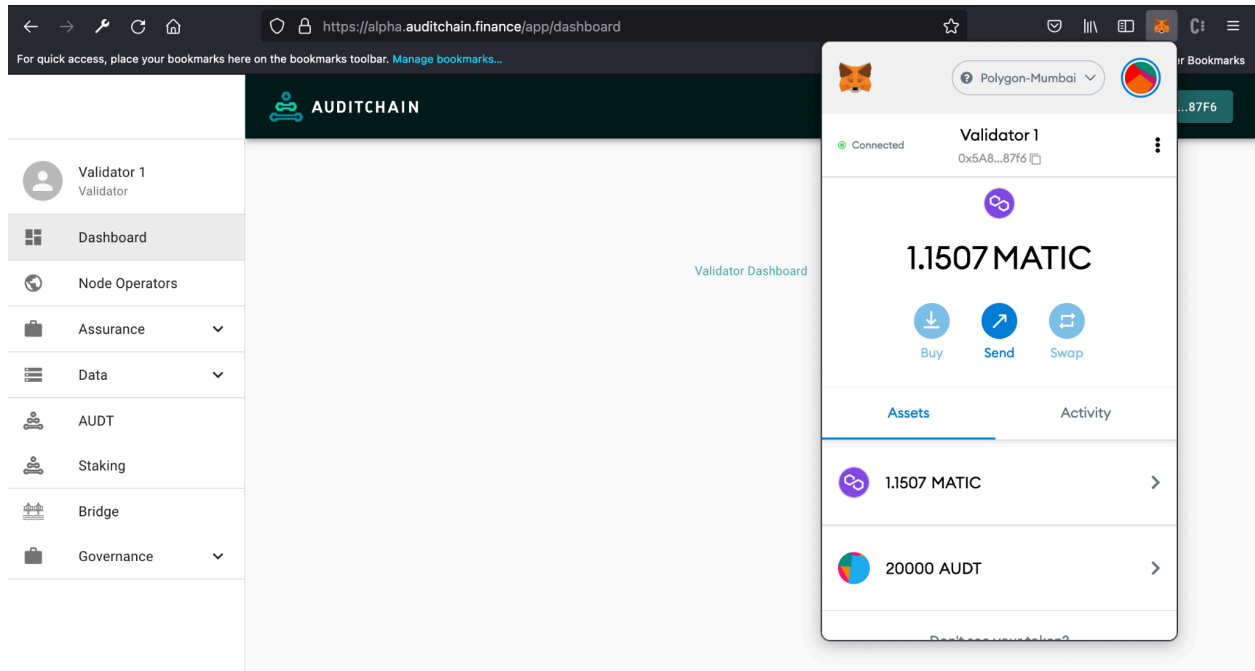
Activity

 1.1507 MATIC

 20000 AUDT

5. Connect to network and Auditchain

Visit <https://alpha.auditchain.finance/app> . Click "Connect to MetaMask."



This link provides instructions on how to add the **Mumbai Test Network** on Polygon to your Metamask.

<https://docs.polygon.technology/docs/develop/metamask/config-polygon-on-metamask/>

Following the configuration of the Mumbai Test network in your Metamask, at the top center, change the network to Mumbai Test Network." Click the circle and click Validator. You're now connected to the right network with the right account.

6. Stake 5,000 or more AUDT

Click the fox icon to open MetaMask. Click the circle and click Validator.
On the left menu, click AUDT menu item.

The screenshot shows the AUDTCHAIN web application interface. The browser address bar displays `https://alpha.auditchain.finance/app/audt`. The application header includes the AUDTCHAIN logo and a wallet address `0X5A8BBB...87F6`. A left sidebar menu contains the following items: Validator 1 (Validator), Dashboard, Assurance, Data, AUDT (highlighted), Staking, and Governance. The main content area features a 'Balance' section showing `10,000.0000`. Below this are two panels: 'Stake' and 'Redeem'. The 'Stake' panel has an input field labeled 'Enter Amount To Stake' with the value `5,000` and a 'STAKE' button. The 'Redeem' panel has an input field labeled 'Enter Amount To Redeem' and a 'REDEEM' button. At the bottom, there is a 'Ledger' section with an information icon.

In the stake field, enter 5,000 or more, click Stake button and complete the MetaMask transaction

7. Enable node operator

Click the fox icon to open MetaMask. If Validator isn't selected, click the circle and click Validator.

On the left menu, click Staking menu item

Click Node Operator Switch and complete MetaMask transaction

← → 🔍 ↺ 🏠 🔒 https://alpha.auditchain.finance/app/staking ☆ 📧 📁 📄 🦊 🔄 📱 ☰

For quick access, place your bookmarks here on the bookmarks toolbar. [Manage bookmarks...](#) 📁 Other Bookmarks

AUDITCHAIN 0X5A8BBB...87F6

Validator 1
Validator

Dashboard

Assurance ▾

Data ▾

AUDT

Staking

Governance ▾

Balance
10,000.0000

☒ Node Operator

☐ I'm CPA

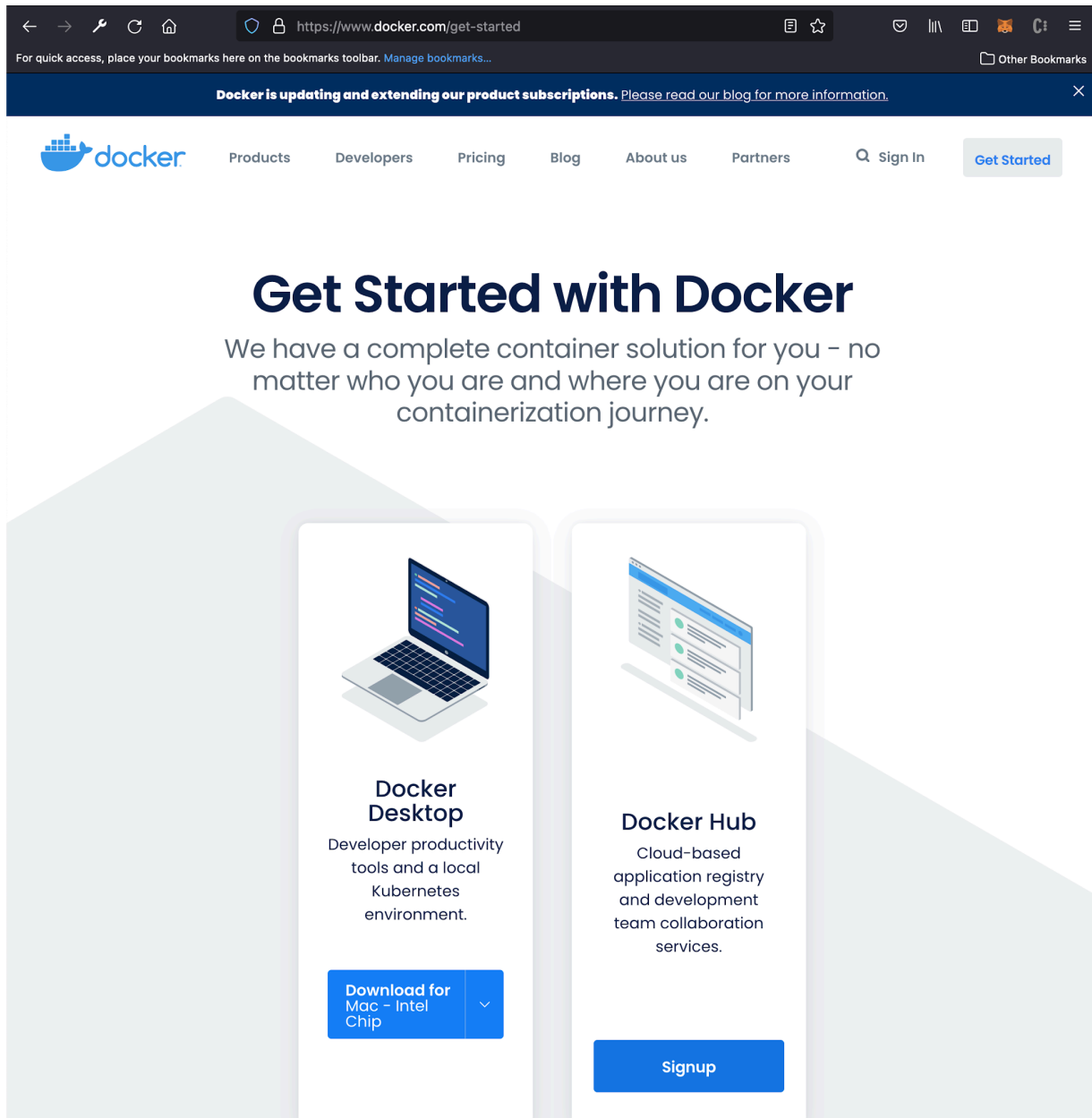
☐ Don't allow delegations

Delegations
Currently delegating to: **Nobody**
Delegate/Cancel: ▾

Pool
Number of Users: 1
Total Stake: 10,000.0000 AUDT
Click to view: ▾

Rewards
Node Operator: 1,360.0000 AUDT
Delegating: 0.0000 AUDT
Referral: 0.0000 AUDT
POW: 4,900.0000 AUDT
☐ Transfer directly into my wallet
CLAIM

8. Download docker



Visit <https://www.docker.com> and click get started. Click the download button and install the software.

You also MUST install [Docker Composer](#).

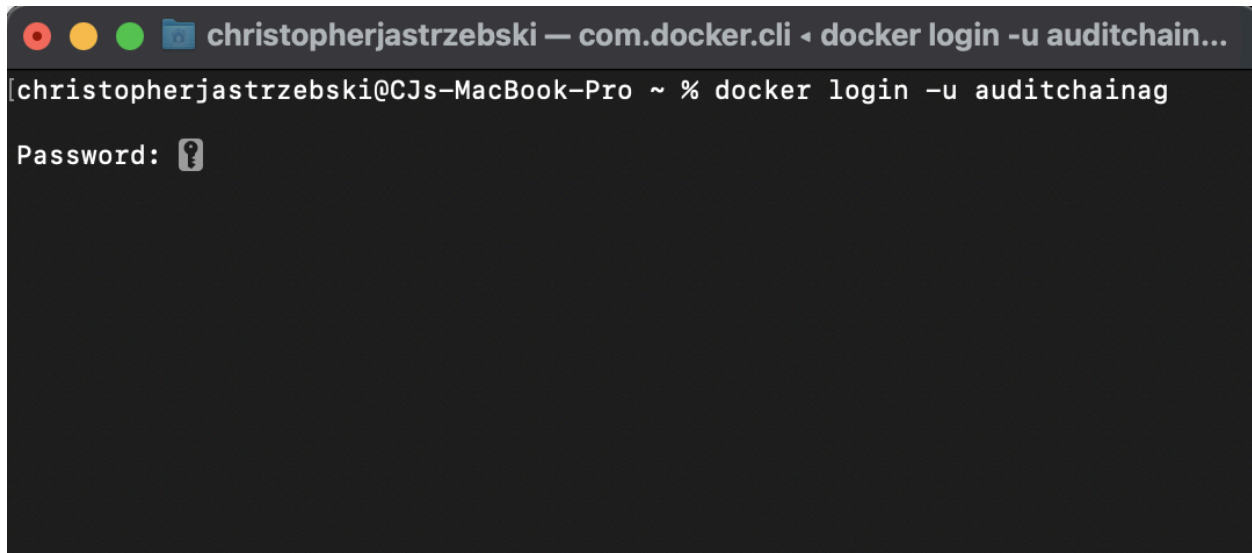
9. cmd line: install docker image on machine

Open your terminal, and run the following commands:

```
docker login -u auditchainag
```

At the password prompt, enter (please copy from here):

```
a006563a-0181-4d3a-9b00-25b02e99b53e
```

A screenshot of a macOS terminal window. The title bar shows the name 'christopherjastrzebski' and the active window 'com.docker.cli'. The terminal content shows the command 'docker login -u auditchainag' being entered. Below the command, the prompt 'Password:' is displayed with a small key icon. The terminal background is dark, and the text is light gray/white.

```
christopherjastrzebski — com.docker.cli ◀ docker login -u auditchainag
christopherjastrzebski@CJs-MacBook-Pro ~ % docker login -u auditchainag
Password: 🔑
```

Install Watchtower

Optionally, install the following agent to check for Auditchain node software updates every 15 minutes, by executing the following command once:

```
docker run -d --name watchtower -v /var/run/docker.sock:/var/run/docker.sock -e
REPO_USER=auditchainag -e REPO_PASS='a006563a-0181-4d3a-9b00-25b02e99b53e'
containrrr/watchtower --cleanup --interval 900
```

More details about it at <https://containrrr.dev/watchtower/>

10. prepare and run the command line to launch Pacioli

There are two alternative ways to run the Pacioli node: less secure (easier to configure), and more secure (harder). They vary in the way how two items are stored and passed to the Pacioli node: the **PacioliNode.env** file and also the **file with private key** of the node operator account.

10.1 (Deprecated)

10.2 More secure (recommended)

The above approach relies on an unencrypted private key file. It is better to keep the private key encrypted, hence this more convoluted and more powerful approach, with two steps

In this more secure scenario, the user must type/paste the private key to the first launch of the node. If the Pacioli node restarts the key is NOT asked again, as long as the Pacioli-Node-Helper Docker container is kept running.

- Download the file
<https://raw.githubusercontent.com/Auditchain/Pacioli-Node-Helper/main/docker-compose.yml> into some directory D. Note that this **directory will be used as a Pacioli working directory**.
Make sure the file is named **docker-compose.yml**.
- `cd D`
 - `docker-compose run paciolinode`
- When asked, provide your private key (export it from Metamask), and hit Enter

After the above, two Docker containers will be running: the Pacioli node and its helper. You can use `docker ps` and `docker logs CONTAINER_ID` to see more. Use `docker composer stop` if you need to shut down the node.

If the user shell session is closed, the Docker containers will be stopped; to avoid that you may use [tmux](#), which allows logging off a server but still leaving commands running:

- Install [tmux](#)
- Instead of the above `docker-compose run` step... replace it by:
 - `tmux`
 - `docker-compose run paciolinode`
 - detach the `tmux` session with: `ctrl-B D`
 - Only then, logoff from your server
- When you want to return to that session, login and then:
 - `tmux attach-session -t 0`

To **update the Pacioli node Docker images**:

- if you did configure watchtower in Step 9, you don't need to do anything

- Otherwise, execute commands `docker-compose stop` and then `docker-compose pull`

11. Next, deposit AUDT for DataSubscriber

Click the fox icon to open MetaMask. In the top right, click the colorful circle. Click Data Subscriber

On the left menu, click AUDT menu item.

The screenshot shows the AUDTChain web application interface. The browser address bar displays `localhost:3000/app/audt`. The application header includes the AUDTCHAIN logo and a user address `0XD43113...E0F4`. The left sidebar menu is open, showing the following items: **Datasubscriber 1** (Data Subscriber), **Dashboard**, **Data**, **AUDT** (selected), and **Governance**. The main content area displays the **Balance** as 4,996.0000. Below the balance, there are two sections: **Deposit** and **Redeem**. The **Deposit** section has a text input field labeled "Enter Amount To Stake" with the value 5000 entered, and a **DEPOSIT** button. The **Redeem** section has a text input field labeled "Enter Amount To Redeem" and a **REDEEM** button. At the bottom, there is a **Ledger** table with the following data:

Type	Date	Amount	Balance
Deposited	10/29/21 11:14:49 AM	5,000.0000	5,000.0000

In the deposit field, enter 1,000 or more, click Deposit button and complete the MetaMask transaction

12. Enjoy!

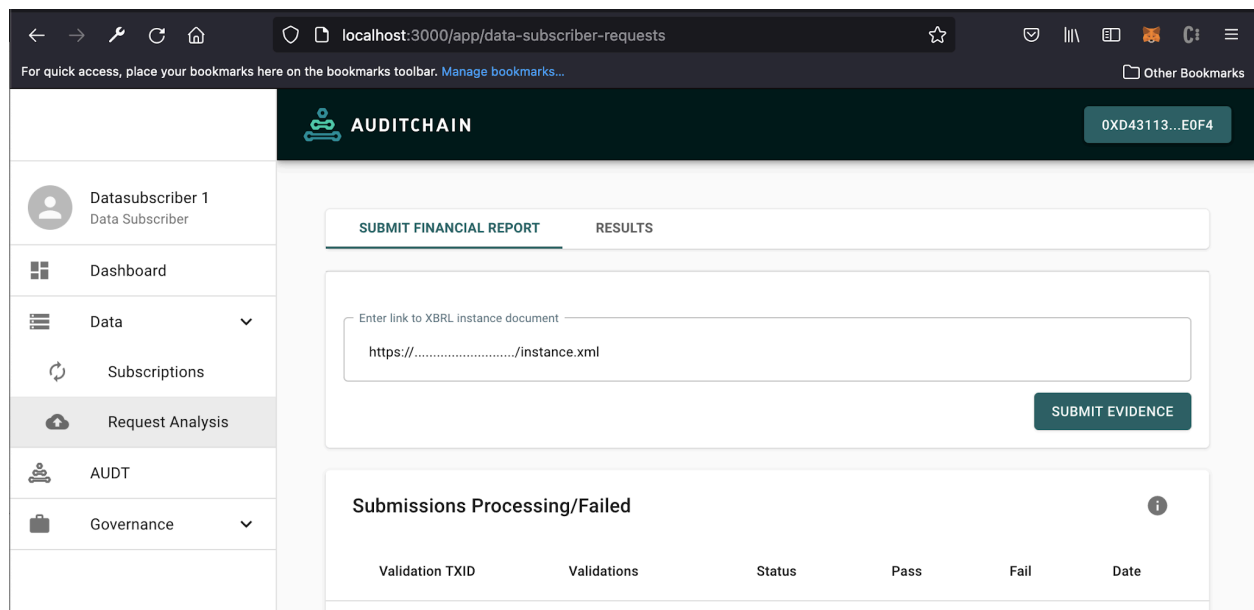
The screenshot displays the AUDITCHAIN staking interface. The top navigation bar includes the AUDITCHAIN logo and a wallet address: 0X5A8BBB...87F6. The left sidebar shows the user is logged in as 'Validator 1' and lists navigation options: Dashboard, Assurance, Data, AUDT, Staking (selected), and Governance.

The main content area includes:

- Balance:** 0.0000
- Staking Options:** Three toggle switches for 'Node Operator' (checked), 'I'm CPA', and 'Don't allow delegations'.
- Delegations:** A section showing 'Currently delegating to: Nobody' and a dropdown menu for 'Delegate/Cancel:'.
- Pool:** Information about the pool, including 'Number of Users: 1' and 'Total Stake: 5,000.0000 AUDT', with a 'Click to view:' dropdown.
- Rewards:** A section showing rewards for 'Node Operator' (30.0000 AUDT), 'Delegating' (0.0000 AUDT), 'Referral' (0.0000 AUDT), and 'POW' (1.0000 AUDT). There is a checkbox for 'Transfer directly into my wallet' and a 'CLAIM' button.
- Validation Transactions:** A table with columns 'Transaction Hash', 'Decision', and 'Validation Time'. It lists five transactions, each with a red icon indicating a successful decision.

At the bottom, there is a 'Dense padding' toggle switch and pagination information: 'Rows per page: 5' and '1-5 of 6'.

View your Pacioli transactions by changing your MetaMask to Validator and viewing the staking page



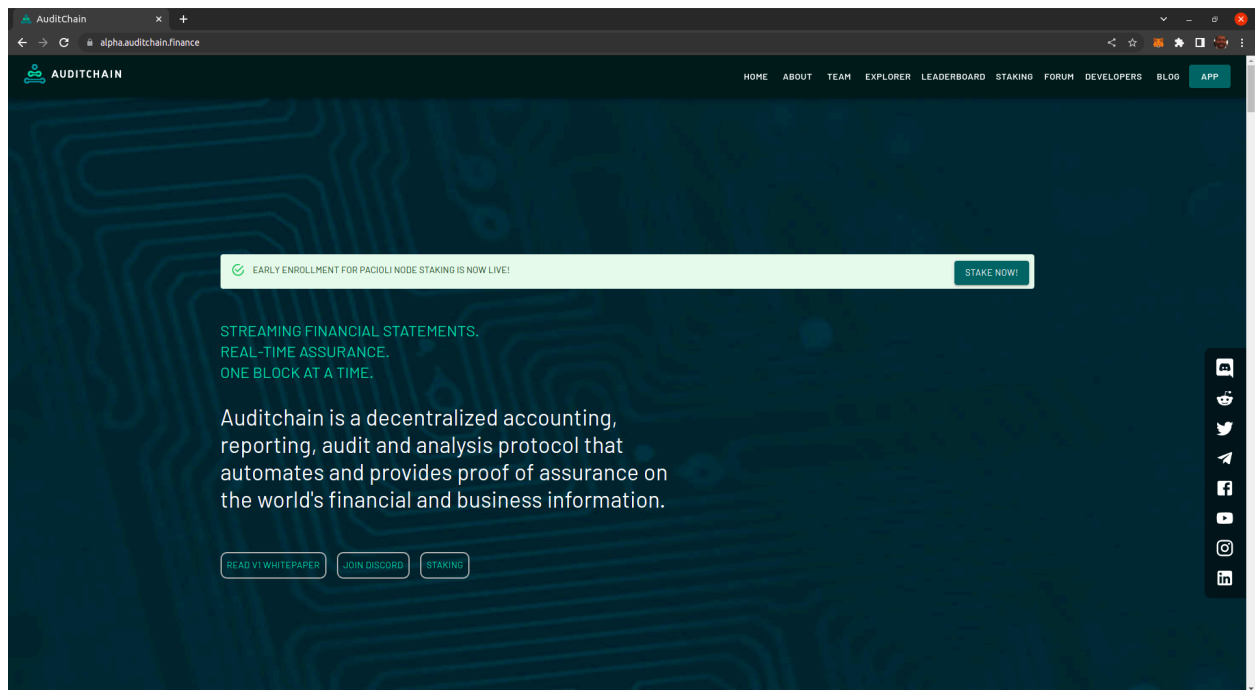
Submit reports by changing your MetaMask account to Data Subscriber and clicking the Data then Request Analysis menu items and using the form. You'll see the results in the results tab. You can also view transactions for both accounts on the testnet scanner: <https://goerli.etherscan.io/>.

Becoming a delegator

To be a delegator means that you are delegating your stakes to another validator INSTEAD of having to run a pacioli node yourself. Bear that in mind in the following sequence of steps:

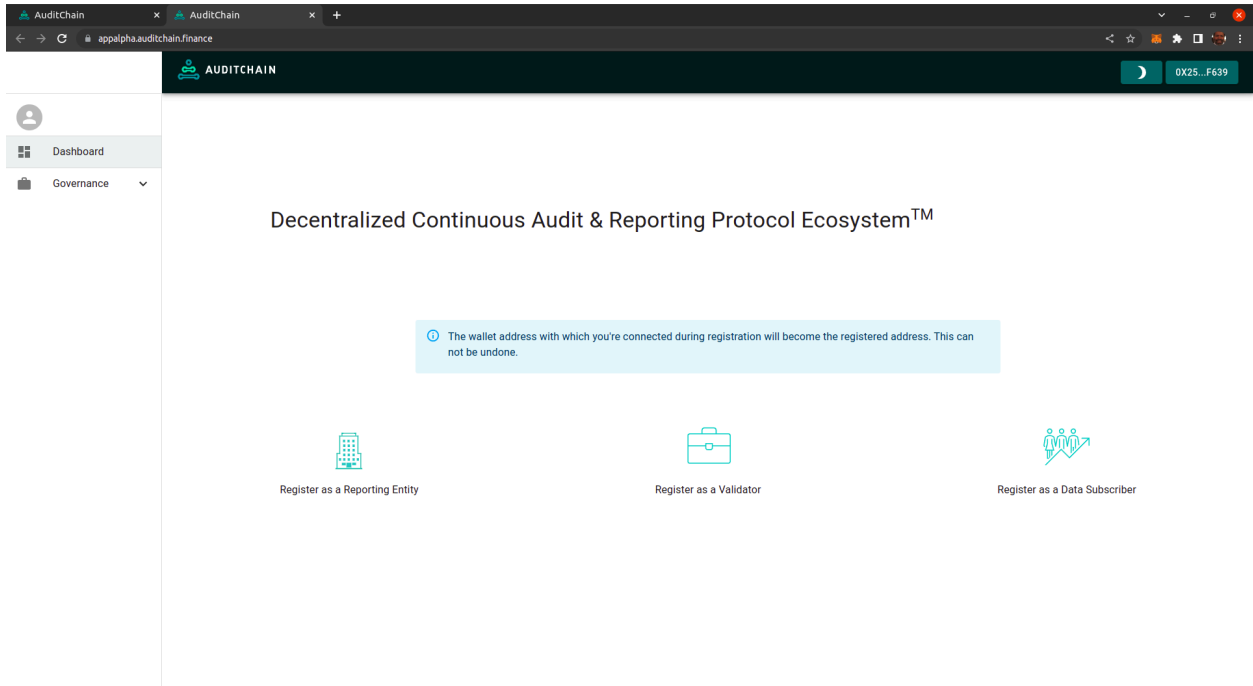
Step 0

Where to start? <https://alpha.auditchain.finance/>



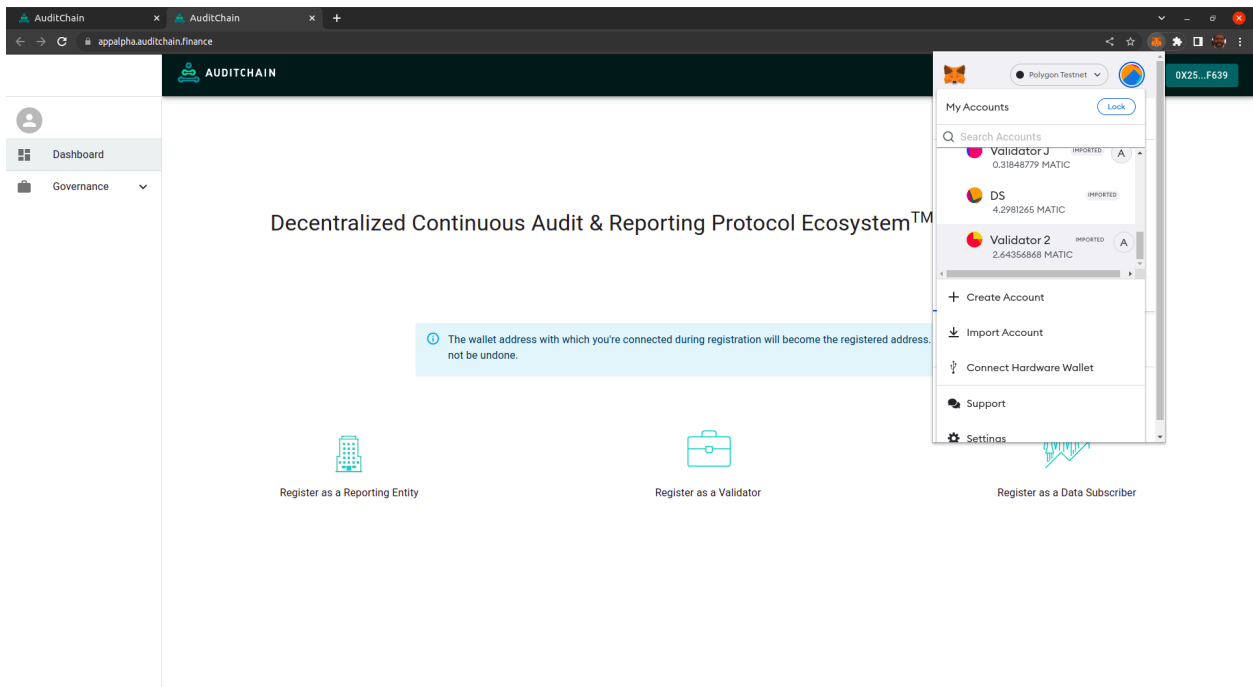
Step 1

By clicking on the App button, one goes to <https://appalpha.auditchain.finance/>



Step 2

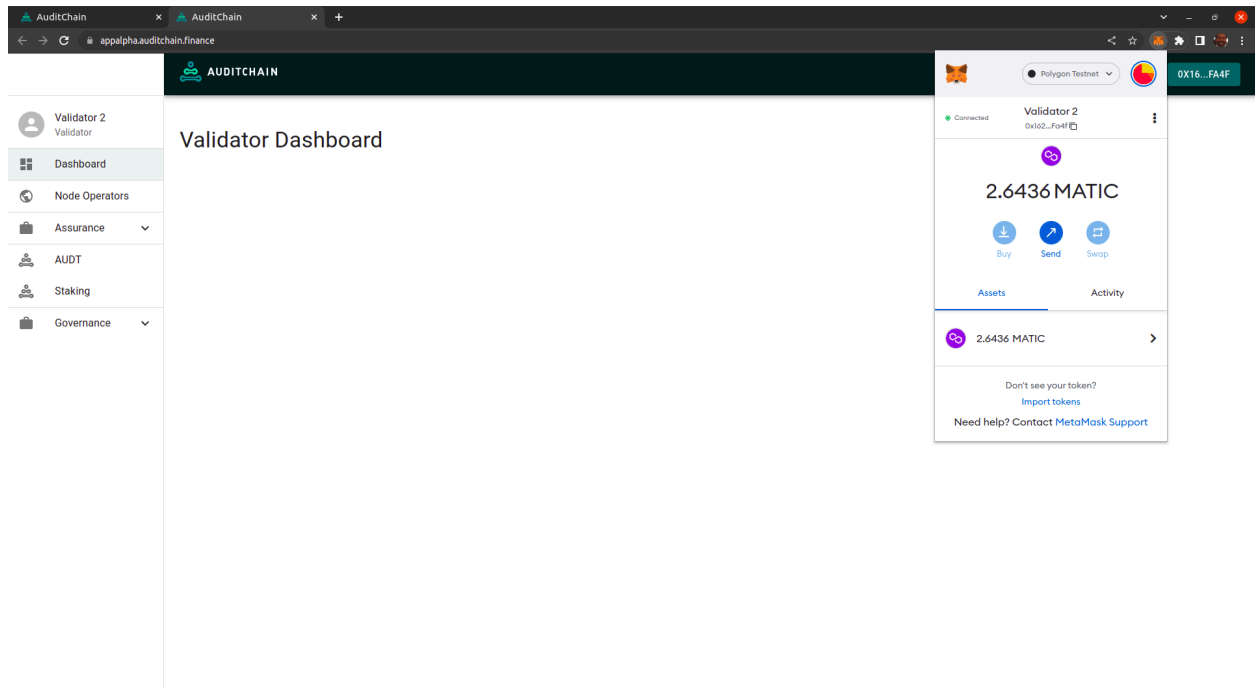
If one is *pre registered* (as all testers are), one can go to the Metamask windows, by clicking on the little fox on the right upper corner of the screen.



and, there, **import** the given account into metamask.

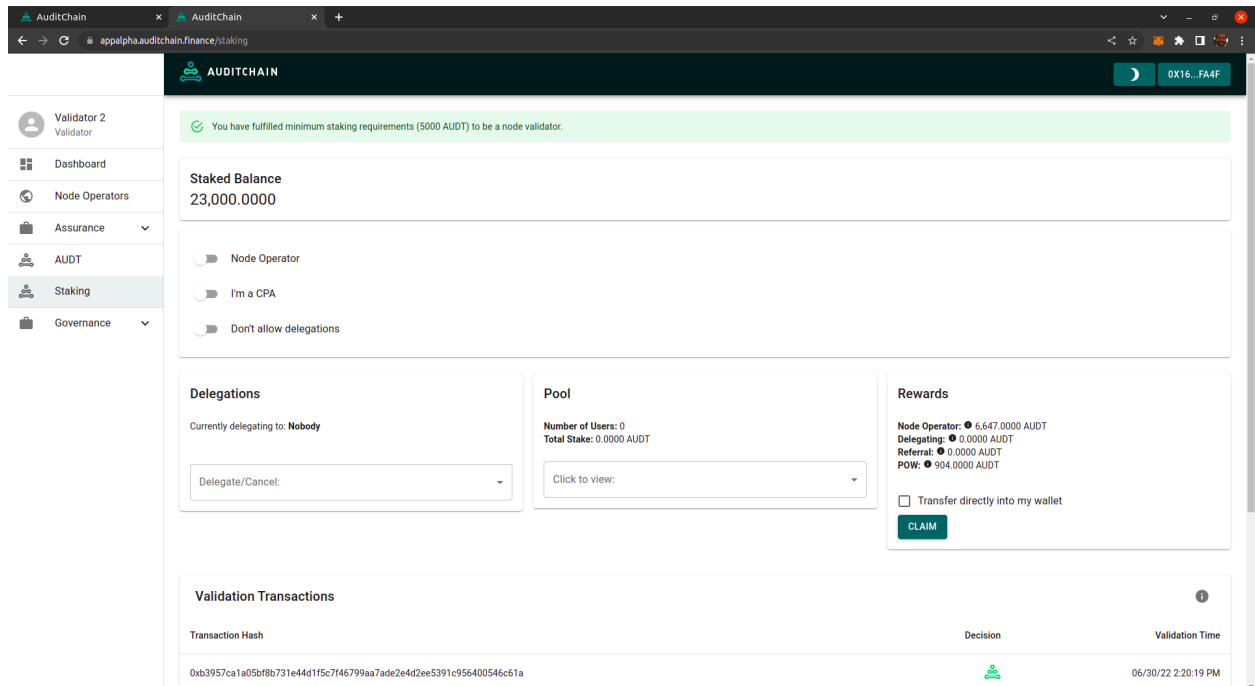
Step 3

After doing so, a screen like the following must appear. Notice that it is given the role of validator, even though one has not chosen whether to run a node or just delegate one's stakes.



Step 4

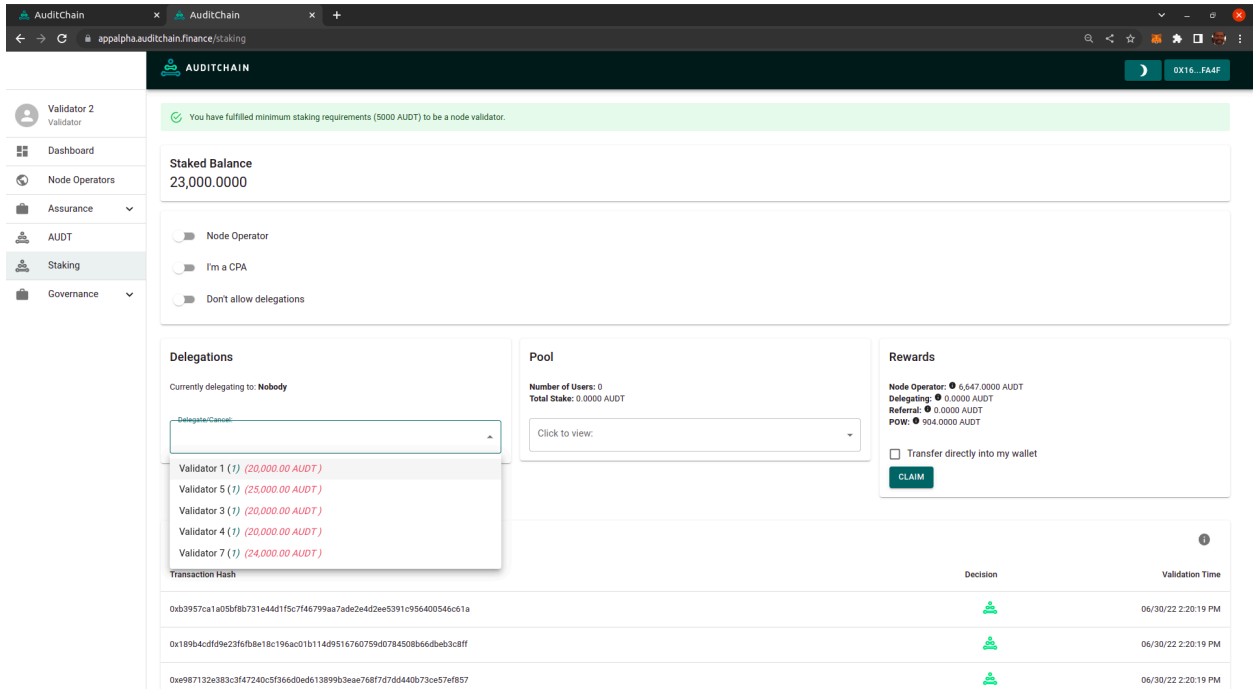
On that screen, please, follow the left menu option "**Staking**". By clicking on it, one will see:



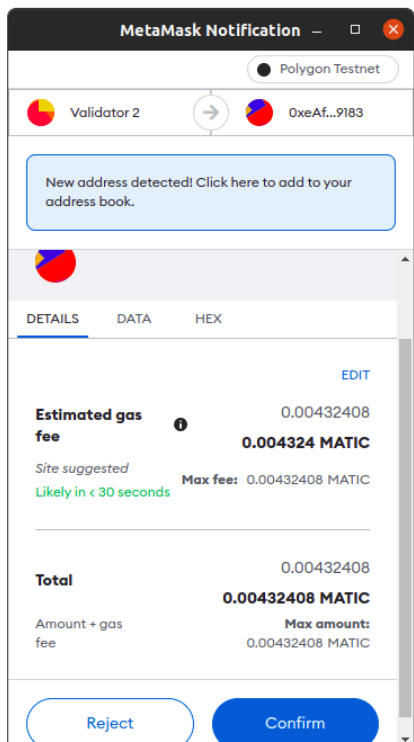
If your account is pre registered, you will see some staked balance. Otherwise, you'll have to go back to the **"AUDT"** menu option on the left, to actually stake some funds in. But, this time, one already has some balance. So, one can delegate from that balance to another validator, by selecting one element from the drop-down list below the **Delegations** title.

Step 5

It will show up like this:

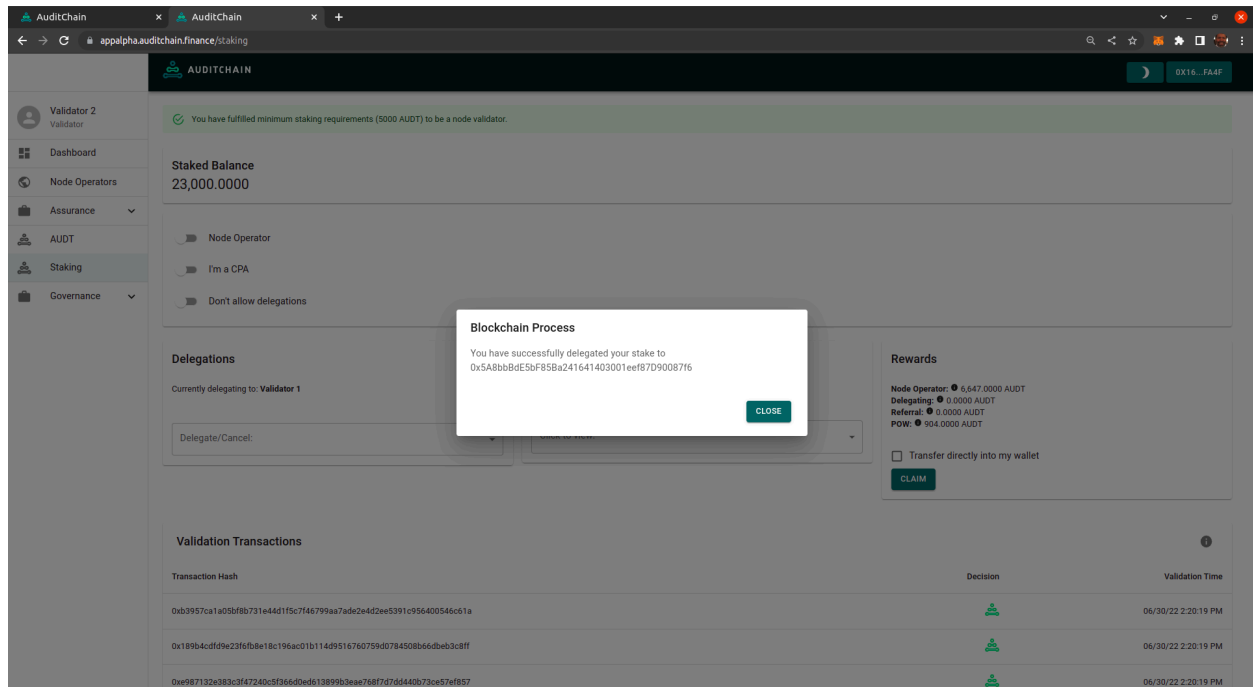


Select a validator. One can select which other validator to delegate to (and the amount to delegate, as they have established it, will be deducted from one's current balance). Metamask, of course, will be opened to confirm the transaction.



Step 6

Confirm the operation with Metamask. If it all goes well (you have enough AUDT AND some MATIC to pay for gas), you will see a message to the effect:



Step 7

Close that dialog window. After closing that windows, one will be able to confirm that one is a **delegator** AND to whom one is delegating, by looking under the same title **Delegations**:

←

→

↻

appalpha.auditchain.finance/staking

AUDITCHAIN

Validator 2

Validator

Dashboard

Node Operators

Assurance

AUDT

Staking

Governance

You have fulfilled minimum staking requirements (5000 AUDT) to be a node validator.

Staked Balance

23,000.0000

Node Operator

I'm a CPA

Don't allow delegations

Delegations

Currently delegating to: **Validator 1**

Delegate/Cancel:

One is now a delegator. The End.

22 of 22