PD-14.0 Ethereum Name System (ENS)

PD-14.1 ENS
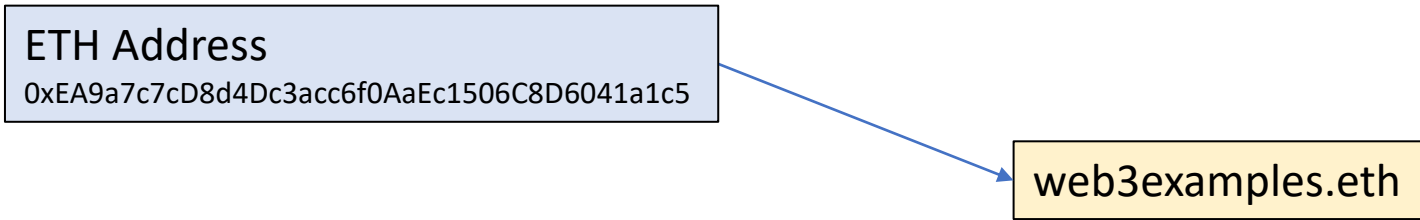
BTC

LTC

DOGE

MONA

ETH → ETH Address
0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5

ETC

RSK

XRP

BCH

BNB

web3examples.eth

EMAIL

URL

AVATAR

DESCRIPTION

NOTICE

KEYWORDS

VND.TWITTER

VND.GITHUB
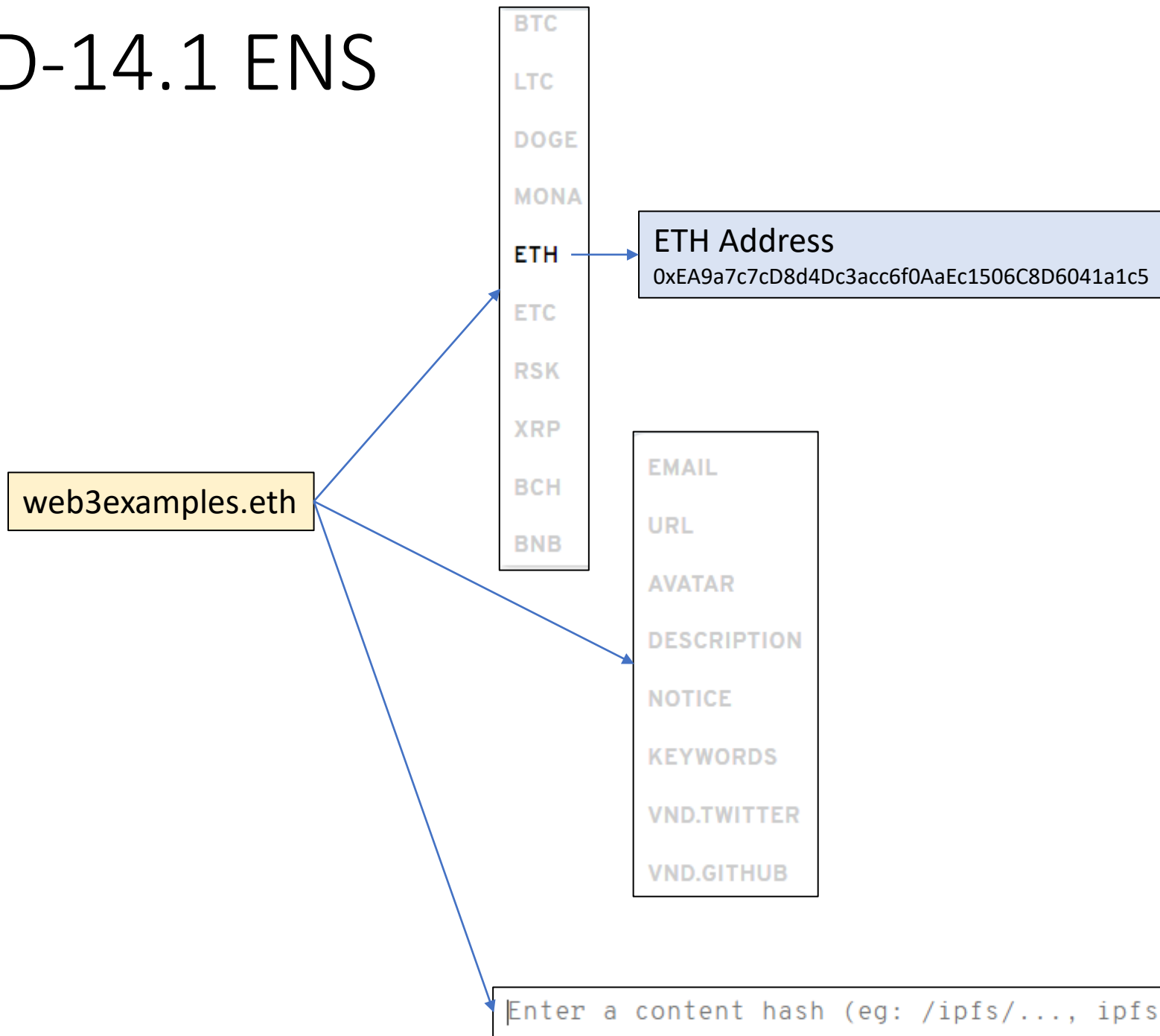
Possible use:
Contract upgradability

https://eips.ethereum.org/EIPS/eip-2304

Enter a content hash (eg: /ipfs/..., ipfs://..., bzz://...,

https://docs.ens.domains/

PD-14.1 Reverse lookup

ETH Address
0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5

web3examples.eth

PD-14.1 ENS Example in MetaMask
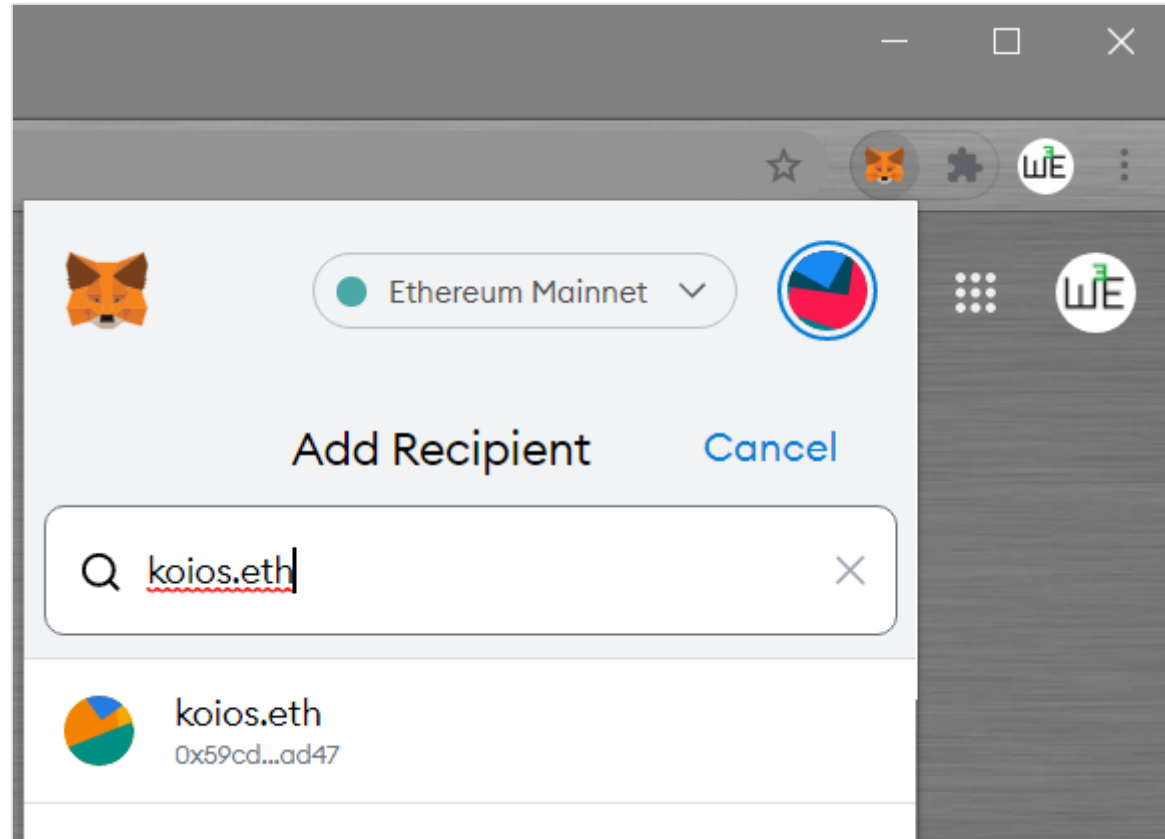
PD-14.1 Request ENS Name
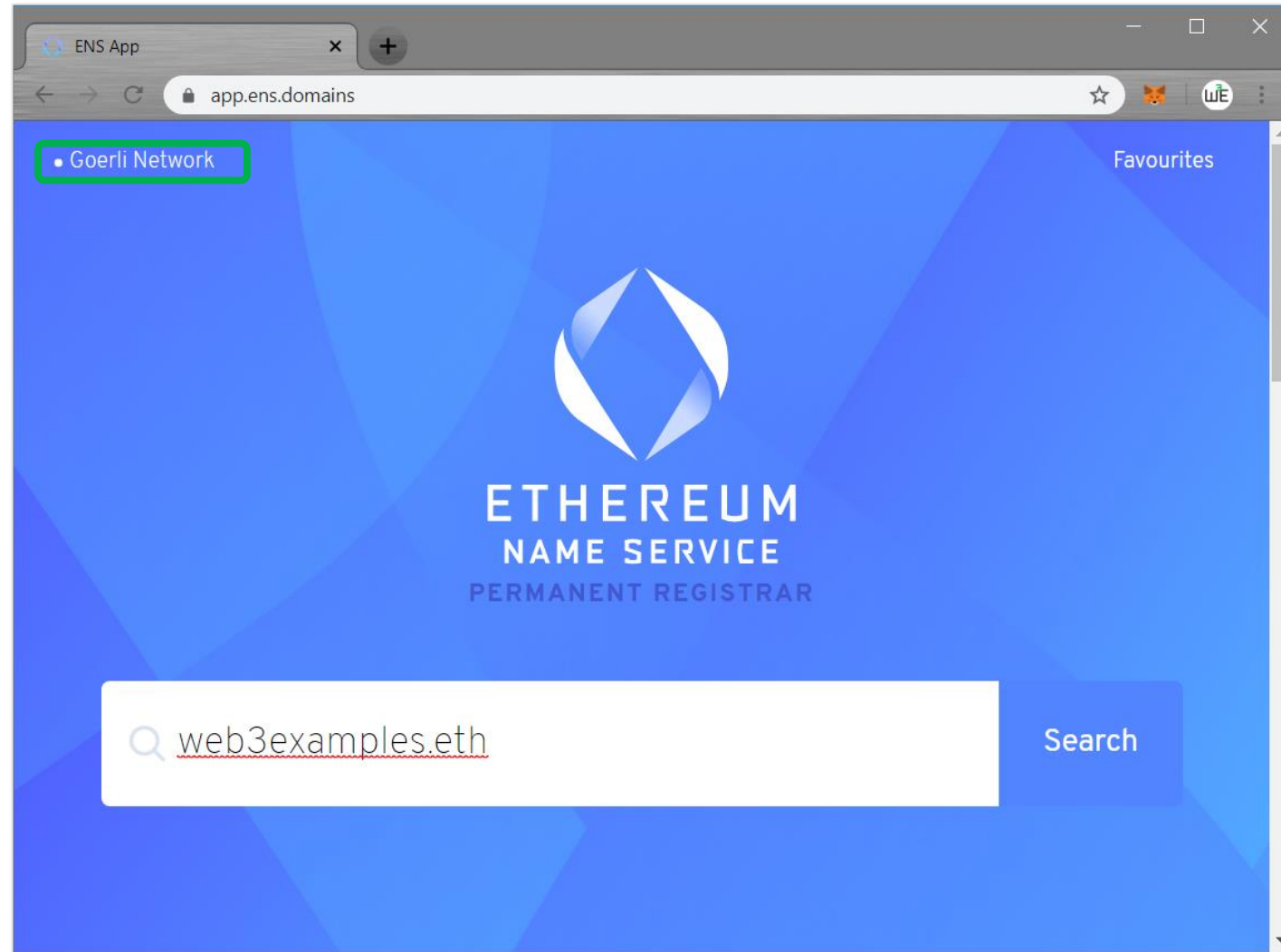
PD-14.1 Transfer ownership

Or via ERC-721 token management
ENS names are ERC-721 compliant

https://app.ens.domains/name/web3examples.eth

PD-14.1 Supported formats & prices

	Main domain	Subdomains Free, can be re-sold
1-2 character Not supported		
3 character $640/year	tre.eth	a.b.c.d.e.f.tre.eth
4 character $160/year	four.eth	a.b.c.d.e.f.four.eth
5 or more characters $5/year	fiver.eth	a.b.c.d.e.f.fiver.eth

Every change is an Ethereum transaction and requires gas

PD-14.2 ENS internals - Lookup

web3examples.eth

namehash

Blockchain

Registrar contract

https://etherscan.
io/address/0x00000
000000c2e074ec69a0
dfb2997ba6c7d2e1e

Lookup

Resolver contract

Lookup

ETH Address
0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5

https://etherscan.
io/address/0x4976f
b03C32e5B8cfe2b6cC
B31c09Ba78EBaBa41

Updated to support new functions

https://app.ens.domains/name/koios.eth

https://docs.ens.domains/ens-deployments

PD-14.2 ENS reverse lookup

ETH Address
0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5

ea9a7c7cd8d4dc3acc6f0aaec1506c8d6041a1c5.addr.reverse

namehash

Blockchain

Registrar contract

Lookup

Resolver contract
ReverseRegistrar

Lookup

https://etherscan.io//address/0x5fbb459c49bb06083c33109fa4f14810ec2cf358

web3examples.eth

PD-14.3 ENS IPFS link

ipfs://bafybeibnb357ohh5ydkvmaqho6ofdtcgvyufxqvfd7icftoyxnlolpdnam

```
QmRNYJpcetbgoLWhaPAmUr74JUinz4BXfCp7Pn1NiGZoMt - web3examples.html

1  <script>
2      location.href = 'https://web3examples.com';
3  </script>
```

http://ipfs.io/ipfs/bafybeibnb357ohh5ydkvmaqho6ofdtcgvyufxqvfd7icftoyxnlolpdnam

http://ipfs.io/ipfs/QmRNYJpcetbgoLWhaPAmUr74JUinz4BXfCp7Pn1NiGZoMt

https://github.com/web3examples/ethereum/tree/master/ens_examples/QmRNYJpcetbgoLWhaPAmUr74JUinz4BXfCp7Pn1NiGZoMt-web3examples.html

PD-14.3 ENS Use eth address as URL

Note:
Requires metamask
Add "/" after address

Preparing ancient wisdom database...

☐ Profile

☐ Start learning

[?]

Waiting for unpkg.com...

web3examples.eth/

https://bafybeifb5c4otah2x7w34ecbz4hahmqbdf7x7wfuhc4vsiusgvgpbq2hha.ipfs.dweb.link/
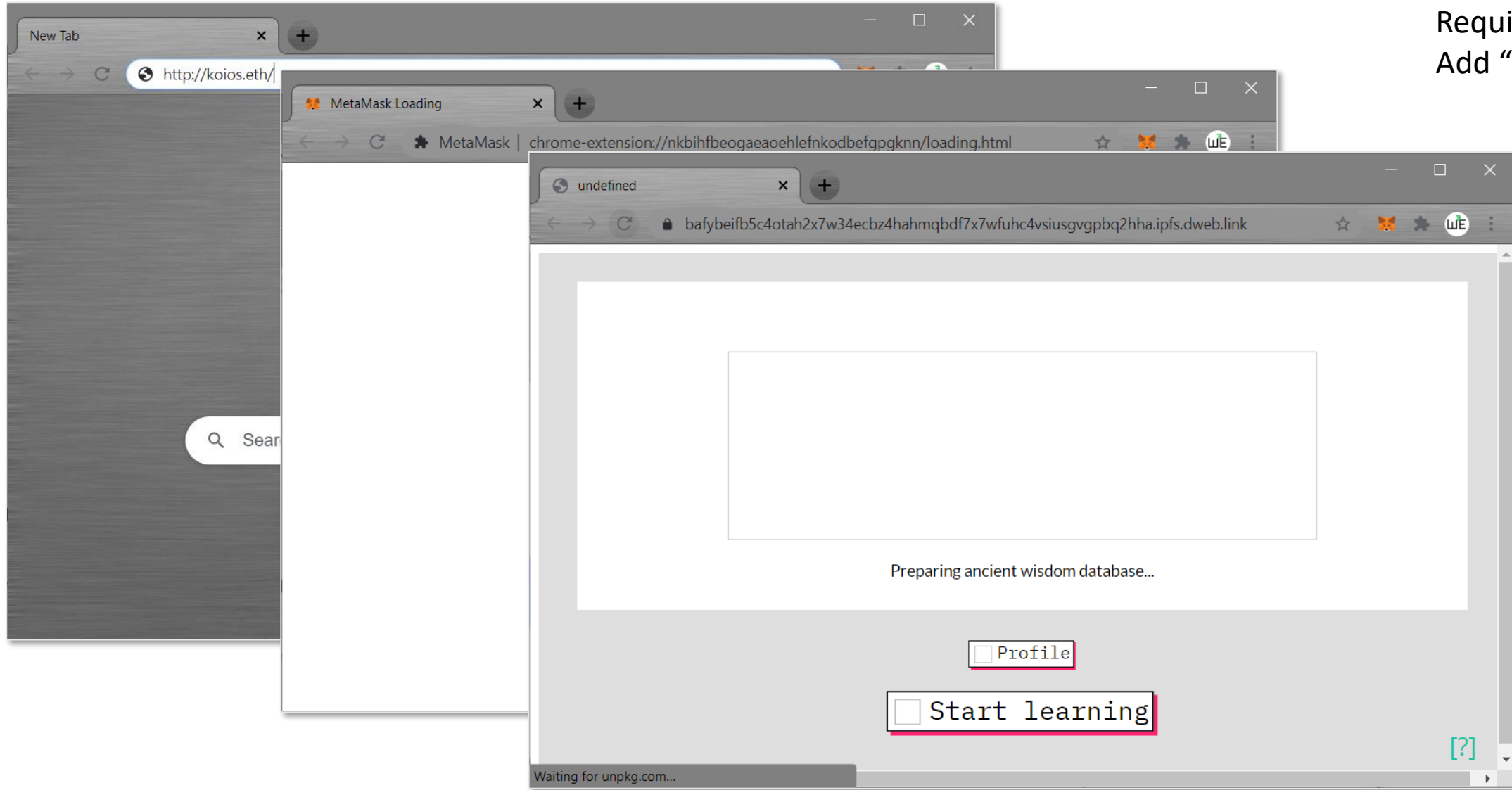
PD-14.3 ENS Eth.link

Note:
Only on mainnet

PD-14.4 Lookup name

```html
ens_addr.html
1  <!DOCTYPE html>
2  <html>
3      <head>
4          <script src="https://unpkg.com/web3@latest/dist/web3.min.js"></script>
5      </head>
6      <body>
7          <h1>ENS Address (Goerli)</h1>
8          <pre id="log" style="width:100%;height:200px"></pre>
9          <script type="text/javascript">
10         function log(logstr) {
11             document.getElementById("log").innerHTML +=logstr+"\n";
12         }
13         async function f() {
14             web3 = new Web3(Web3.givenProvider); // provider from metamask
15             const name='web3examples.eth';
16             log(`Checking ${name}`);
17             var address=await web3.eth.ens.getAddress(name);
18             log (`Address: ${address}`);
19         }
20         f();
21         </script>
22     </body>
23 </html>
```
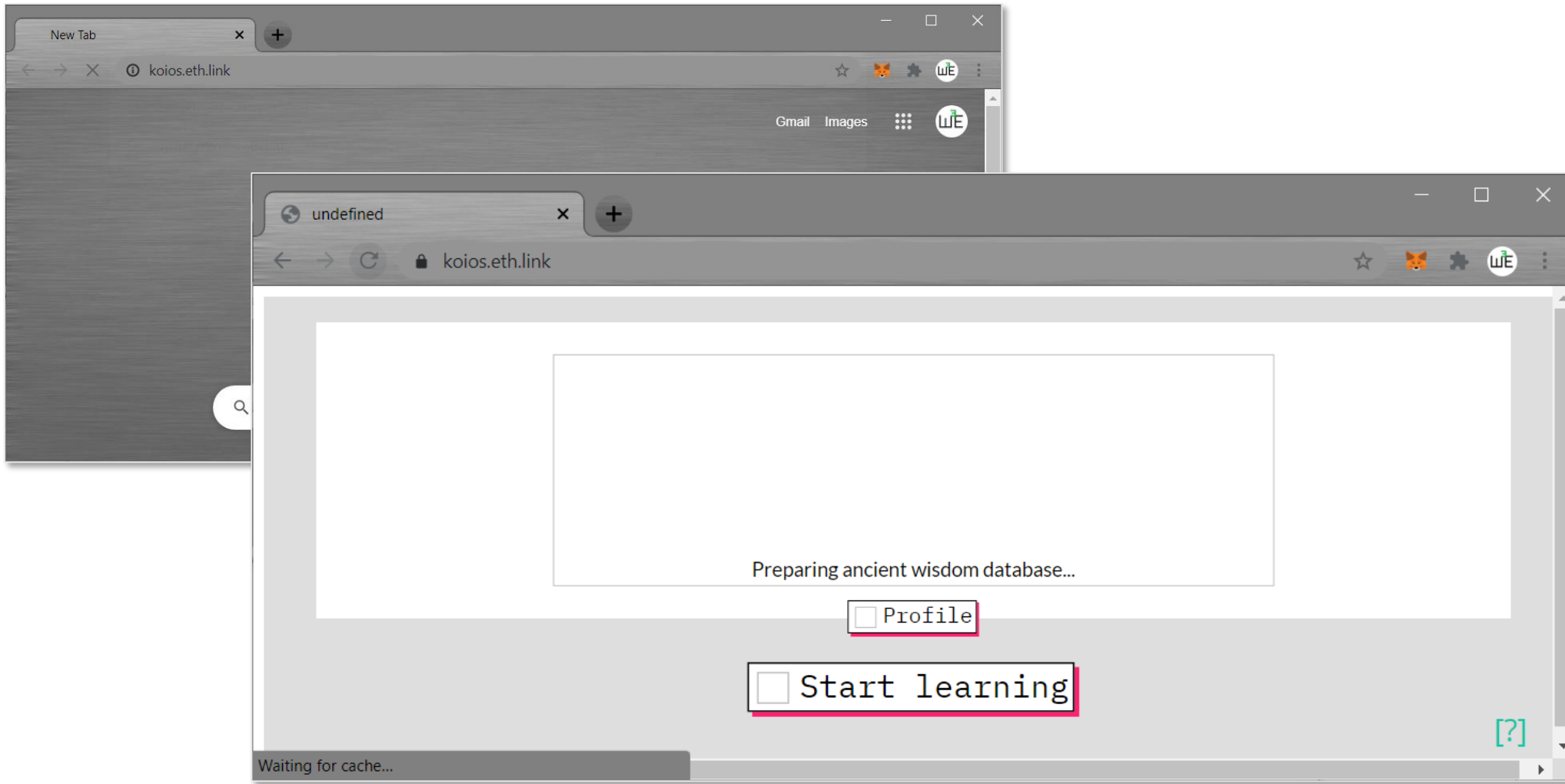
https://web3examples.com/ethereum/ens_examples/ens_addr.html

https://github.com/web3examples/ethereum/tree/master/ens_examples/ens_addr.html

web3examples.com/ethereum/ens_examples/ens_addr.html

ENS Address (Goerli)

Checking web3examples.eth
Address: 0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5

PD-14.4 Reverse lookup name

ens_reverse.html

```html
1   <!DOCTYPE html>
2   <html>
3       <head>
4           <script src="https://unpkg.com/web3@latest/dist/web3.min.js"></script>
5           <script src="namehash-browserify.js"></script>
6       </head>
7       <body>
8           <h1>ENS Address (Goerli)</h1>
9           <pre id="log" style="width:100%;height:200px"></pre>
10          <script type="text/javascript">
11          function log(logstr) {
12              document.getElementById("log").innerHTML +=logstr+"\n";
13          }
14          async function Reverse(address) {
15              var lookup=address.toLowerCase().substr(2) + '.addr.reverse';
16              log(`Reverse via ${lookup}`);
17              var ResolverContract=await web3.eth.ens.resolver(lookup);
18              var nh=namehash.hash(lookup);
19              var name=await ResolverContract.methods.name(nh).call()
20              return name;
21          }
22          async function f() {
23              web3 = new Web3(Web3.givenProvider); // provider from metamask
24              var address="0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5";
25              log (`Address: ${address}`);
26              var reverse=await Reverse(address)
27              log(`Reverse: ${reverse}`);
28          }
29          f();
30          </script>
31      </body>
32  </html>
```
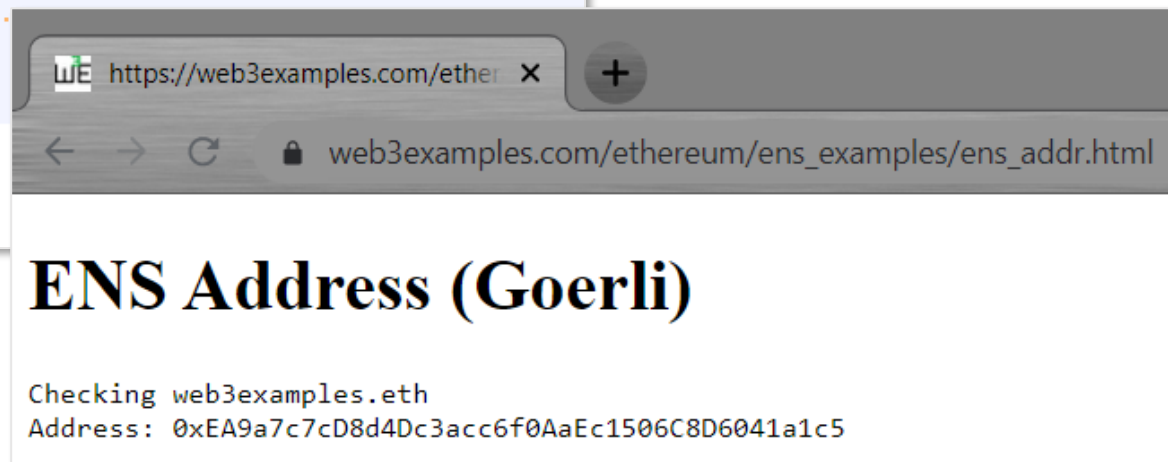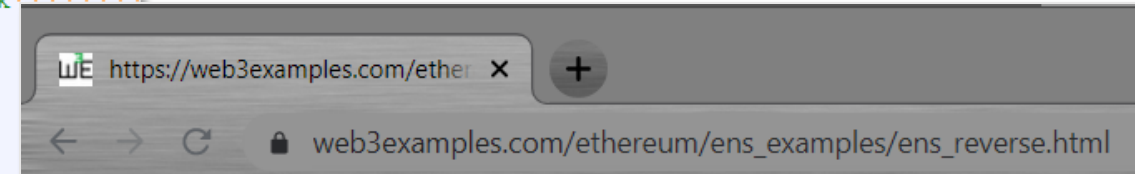
namehash-require.js

```js
1   namehash=require('eth-ens-namehash');
```

go_br.cmd

```
1   browserify namehash-require.js -o namehash-browserify.js
```

https://web3examples.com/ethereum/ens_examples/ens_reverse.html

https://web3examples.com/ethereum/ens_examples/ens_reverse.html

ENS Address (Goerli)

Address: 0xEA9a7c7cD8d4Dc3acc6f0AaEc1506C8D6041a1c5
Reverse via ea9a7c7cd8d4dc3acc6f0aaec1506c8d6041a1c5.addr.reverse
Reverse: web3examples.eth

https://github.com/web3examples/ethereum/tree/master/ens_examples/ens_reverse.html

PD-14.4 IPFS lookup

```html
1   <!DOCTYPE html>
2   <html>
3       <head>
4           <script src="https://unpkg.com/web3@latest/dist/web3.min.js"></script>
5       </head>
6       <body>
7           <h1>ENS IPFS (Goerli)</h1>
8           <pre id="log" style="width:100%;height:200px"></pre>
9           <script type="text/javascript">
10          function log(logstr) {
11              document.getElementById("log").innerHTML +=logstr+"\n";
12          }
13          async function f() {
14              web3 = new Web3(Web3.givenProvider); // provider from metamask
15              const name='web3examples.eth';
16              log(`Checking ${name}`);
17              var ipfs=await web3.eth.ens.getContenthash(name)
18              log (`${ipfs.protocolType}: ${ipfs.decoded}`);
19          }
20          f();
21          </script>
22      </body>
23  </html>
```

https://web3examples.com/ethereum/ens_examples/ens_ipfs.html

https://github.com/web3examples/ethereum/tree/master/ens_examples/ens_ipfs.html

Browser window: https://web3examples.com/ether...
web3examples.com/ethereum/ens_examples/ens_ipfs.html

ENS IPFS (Goerli)

Checking web3examples.eth
ipfs: QmRNYJpcetbgoLWhaPAmUr74JUinz4BXfCp7Pn1NiGZoMt