

Front-end Workflow with pictures

In new Terminal, type:

```
$ npm run dev
```

(if you are seeing errors like this :

```
npm ERR! code ELIFECYCLE
```

```
npm ERR! errno 126
```

```
npm ERR! AncientCoinShop@1.0.0 dev: `lite-server`
```

```
npm ERR! Exit status 126
```

```
npm ER
```

Try this :

```
$rm -rf node_modules/*
```

```
$npm install
```

and then

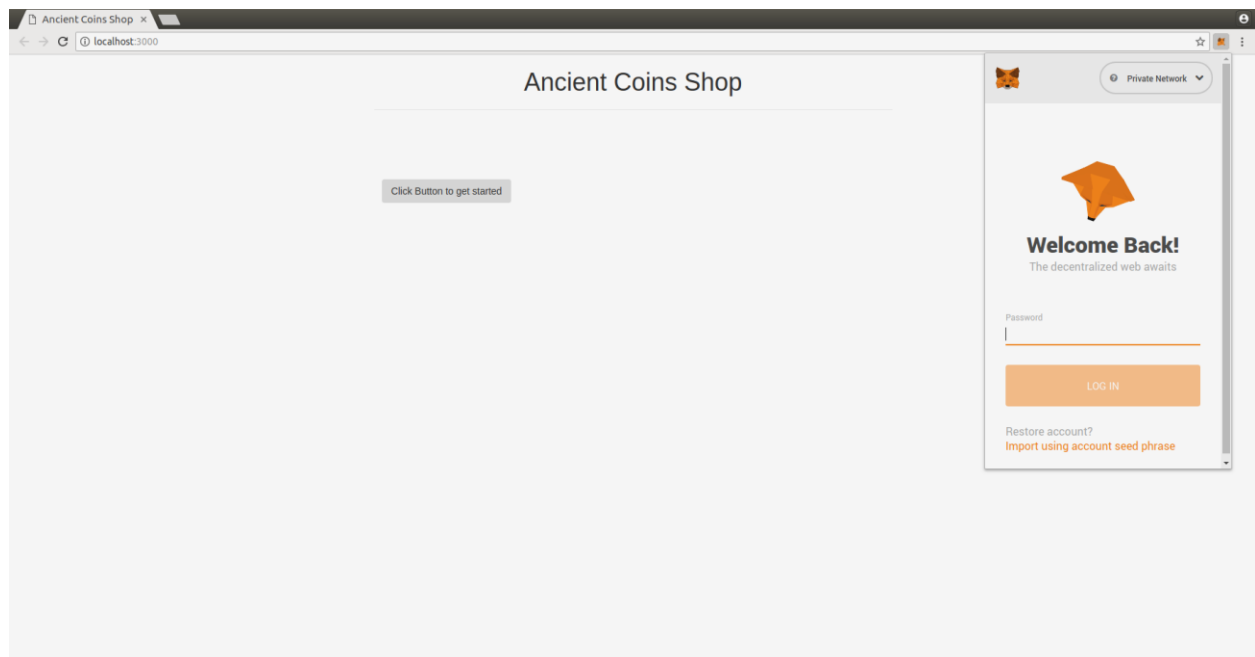
```
$npm run dev
```

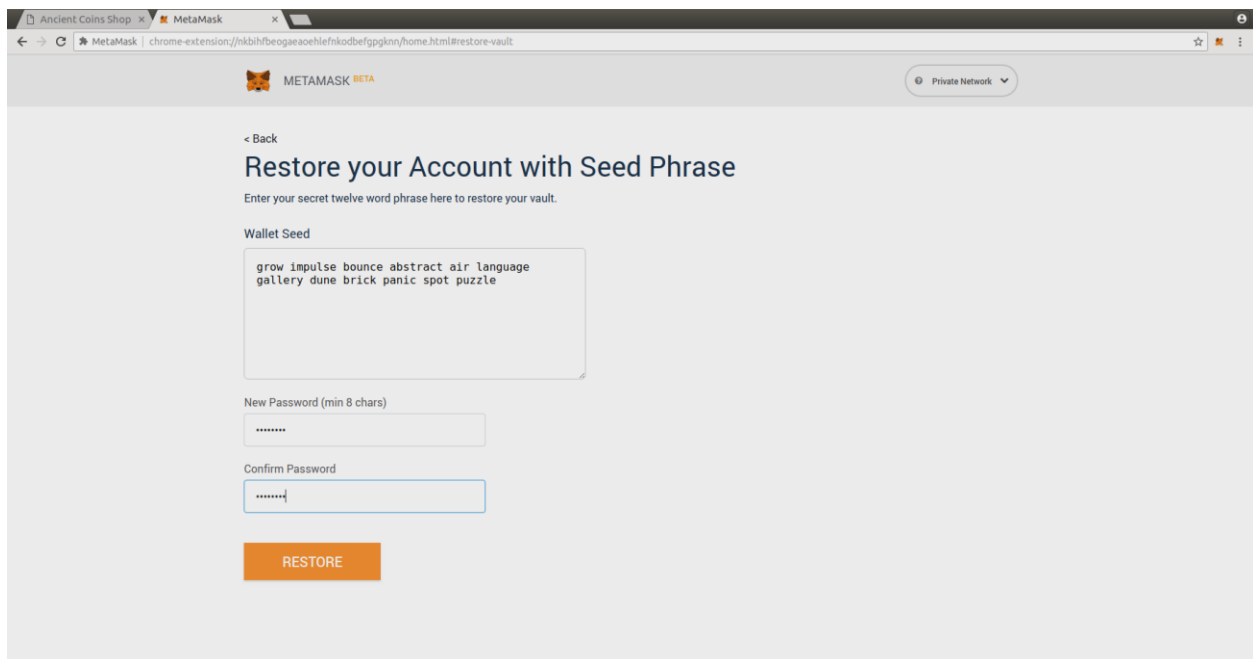
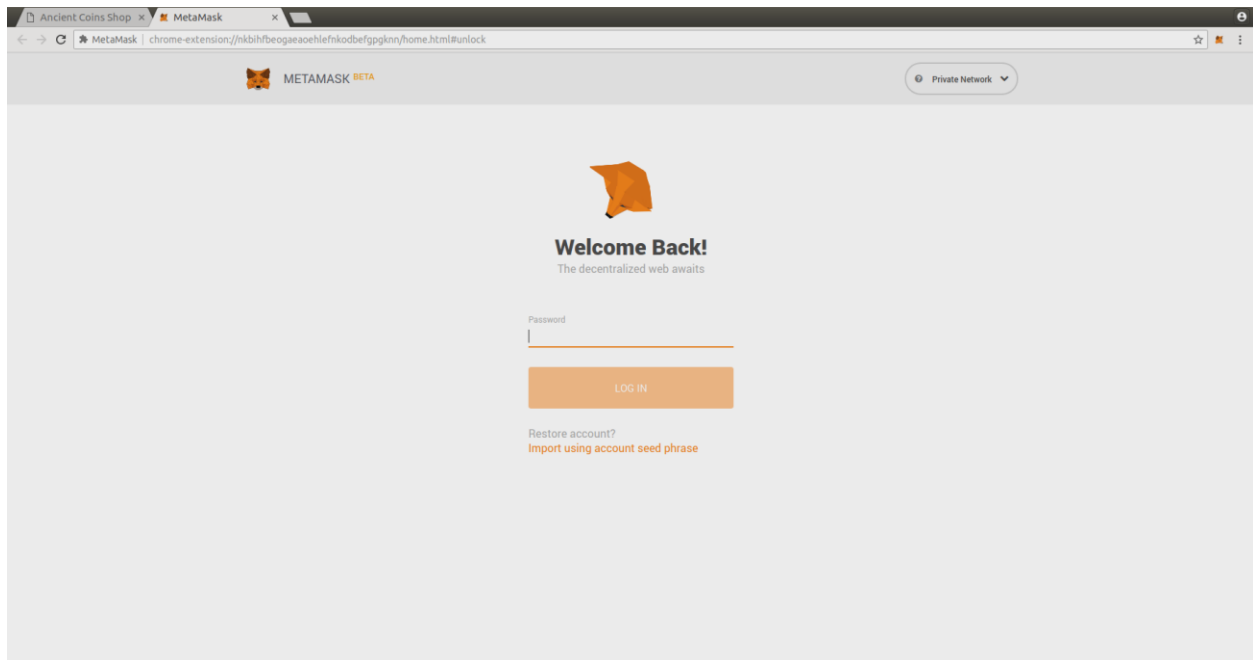
This will start the lite-server webserver which renders the app front-end pages.

Open a Web browser (Chrome or Firefox) and go to URL : <http://127.0.0.1:3000>

(You may be asked to enter a password to unlock your login keyring).

Before we start , we need to import the seed key from ganache-cli into the Metamask extension to get access to those accounts.





Application process and structure.

The process and structure of the application is as follows:

The contract owner (account[0] in the Truffle environment) has automatically been added to the infrastructure as an admin, so make sure you have unlocked Metamask and are logged in as the first account.

Make sure you're connected to the local RPC network:

We'll need 4 additional addresses to work with , so let's create those:

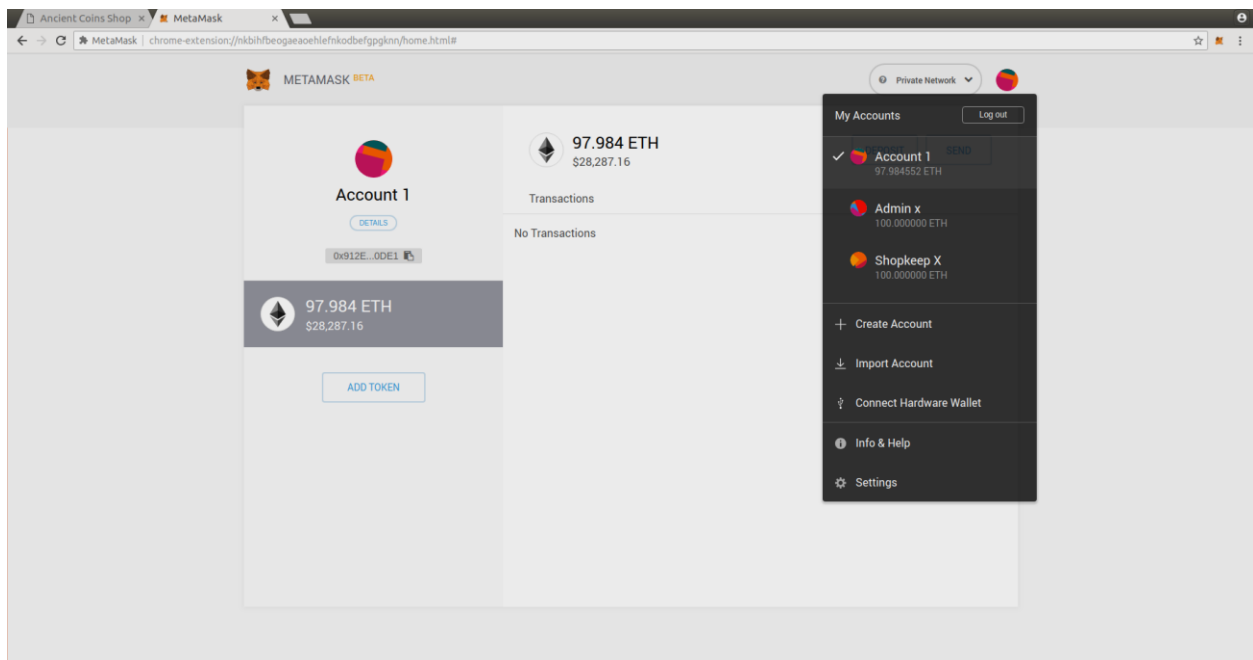
Admin X

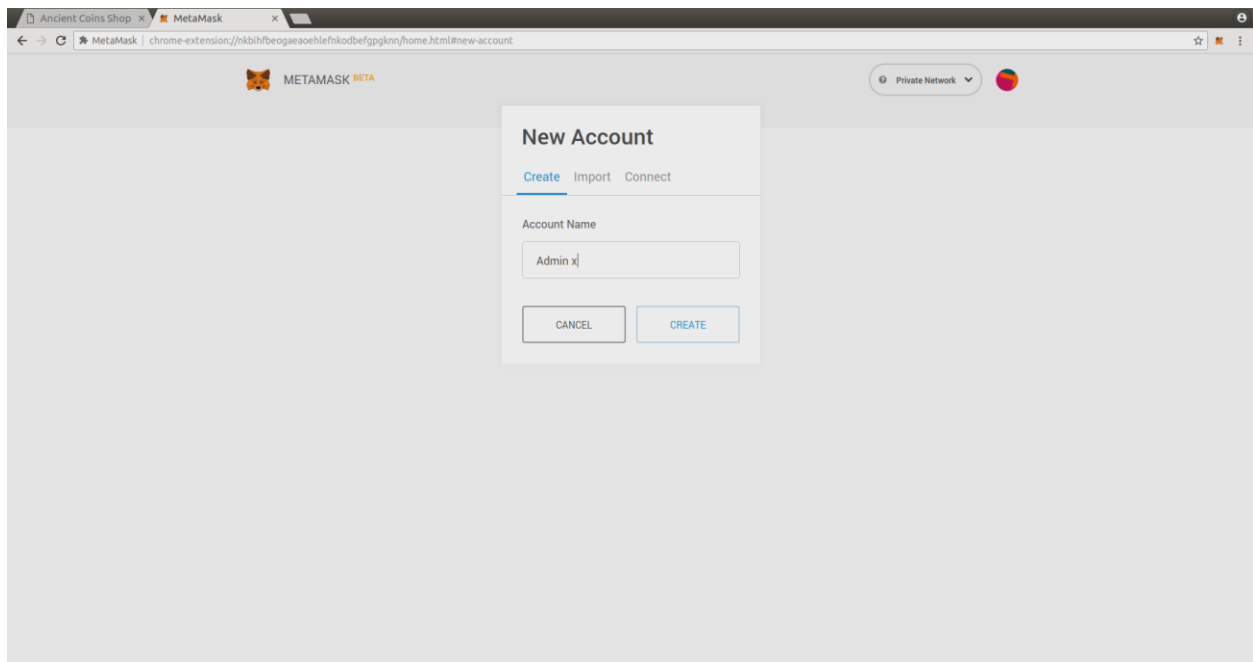
Shopkeep X

Shop X

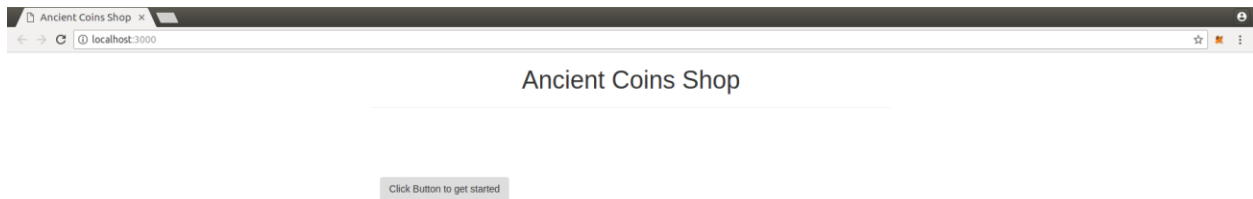
Shopper X

Select Account 1 again (the default account) because that address has been automatically added to the ADMINs list.





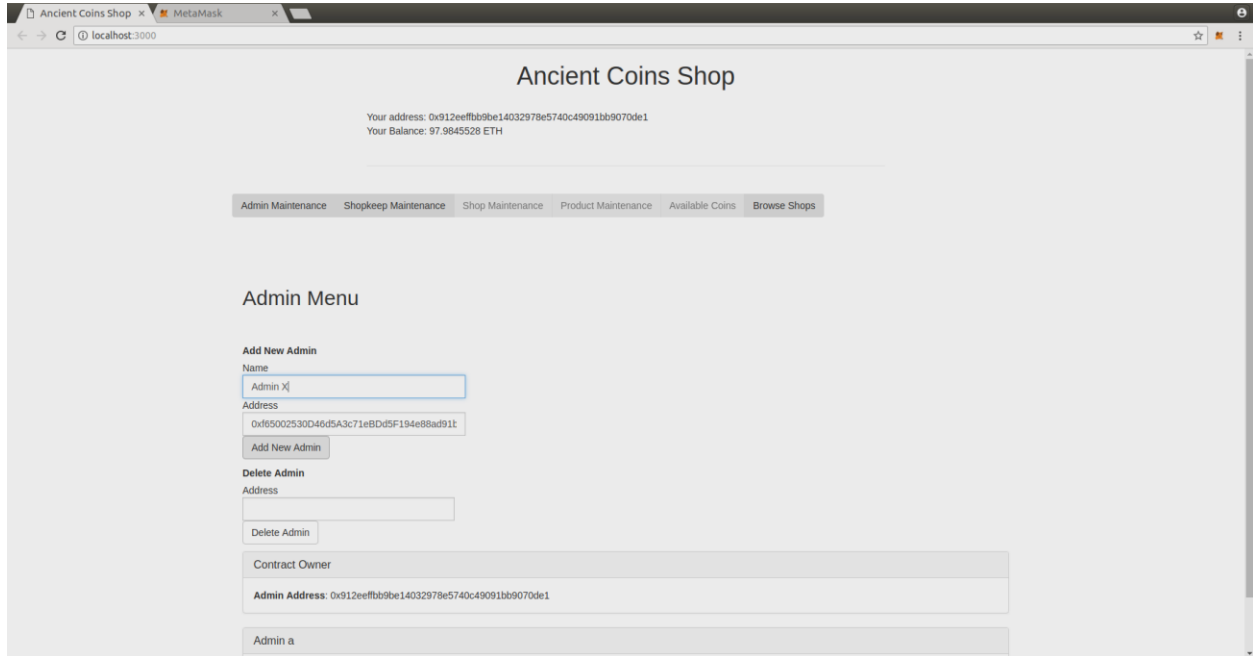
Go to the home page:
<http://localhost:3000> (do a refresh)



Click on the central button.

You will now see a screen that only allows ADMIN accounts to access. (Note how some of the buttons are greyed out).

Each role in this application has access to certain functions.



Let's add a Admin:

In the 'Add New Admin' section,

The screenshot shows a web browser window with two tabs: 'Ancient Coins Shop' and 'MetaMask'. The address bar shows 'localhost:3000'. The page title is 'Ancient Coins Shop'. Below the title, it displays the user's address and balance: 'Your address: 0x912eeffb9be14032978e5740c49091bb9070de1' and 'Your Balance: 97.9845528 ETH'. A navigation bar contains links: 'Admin Maintenance', 'Shopkeep Maintenance', 'Shop Maintenance', 'Product Maintenance', 'Available Coins', and 'Browse Shops'. The main content area is titled 'Admin Menu' and contains three sections: 'Add New Admin' with fields for 'Name' (containing 'Admin X') and 'Address' (containing '0xf5002530046d5A3c71eBd5F194e88ad91t'), a 'Delete Admin' section with an 'Address' field, and a 'Contract Owner' section with an 'Admin Address' field (containing '0x912eeffb9be14032978e5740c49091bb9070de1') and an 'Admin a' field.

Type: Admin X in the Name textfield, and paste the address of Admin X in the Address field.

! Be careful, to go copy the address of another account, it is easy to forget that you need to activate/ be the account that you're testing..)

so: for example : go to the Metamask tab, select account Admin X, copy its address , but then also remember to go back and change the account again to Account 1

Now go back to the Ancient Coins Shop tab, paste the address in the 'Address' menu.

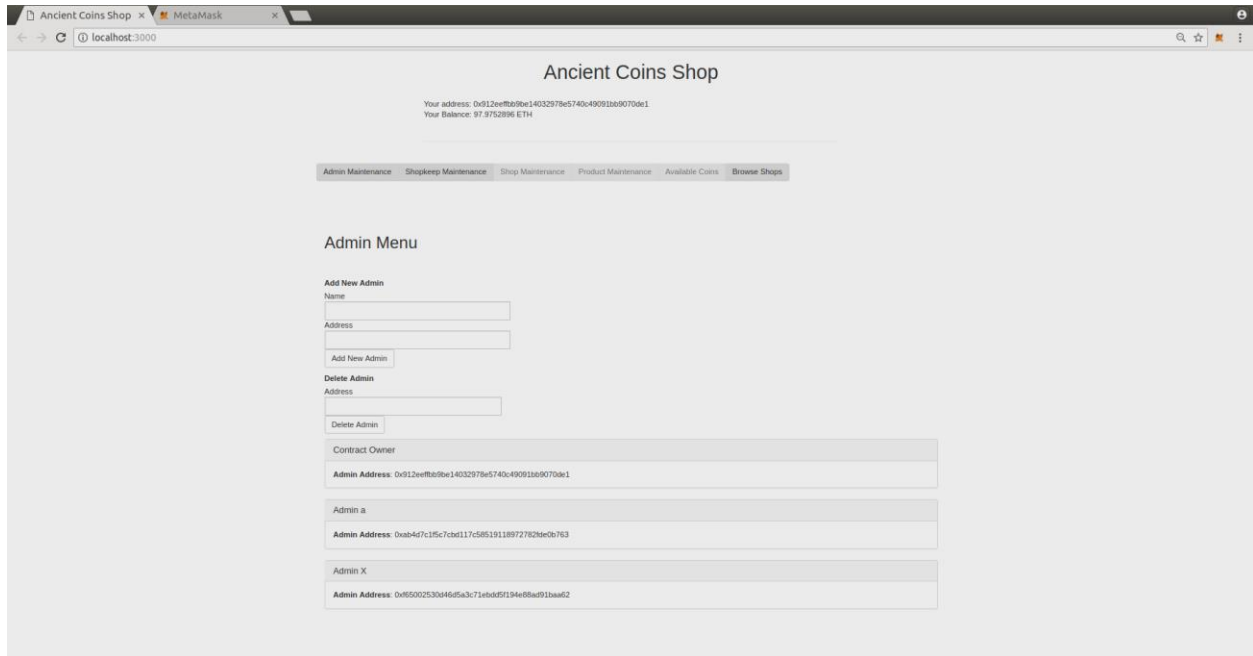
Click 'Add New Admin'

Confirm, the MetaMask transaction.

I didn't implement a handy spinner to wait for the Metamask transaction to completed, so regular refreshes are the only way to know when the transaction has completed.

You will be shown the first 'Click Button to get started' screen again. (Click on it)

The next time the Admin panel shows up, our new admin is part of the list.



By the way : the top panel shows the current users' address and balance , and gets updated everytime a page refreshes.

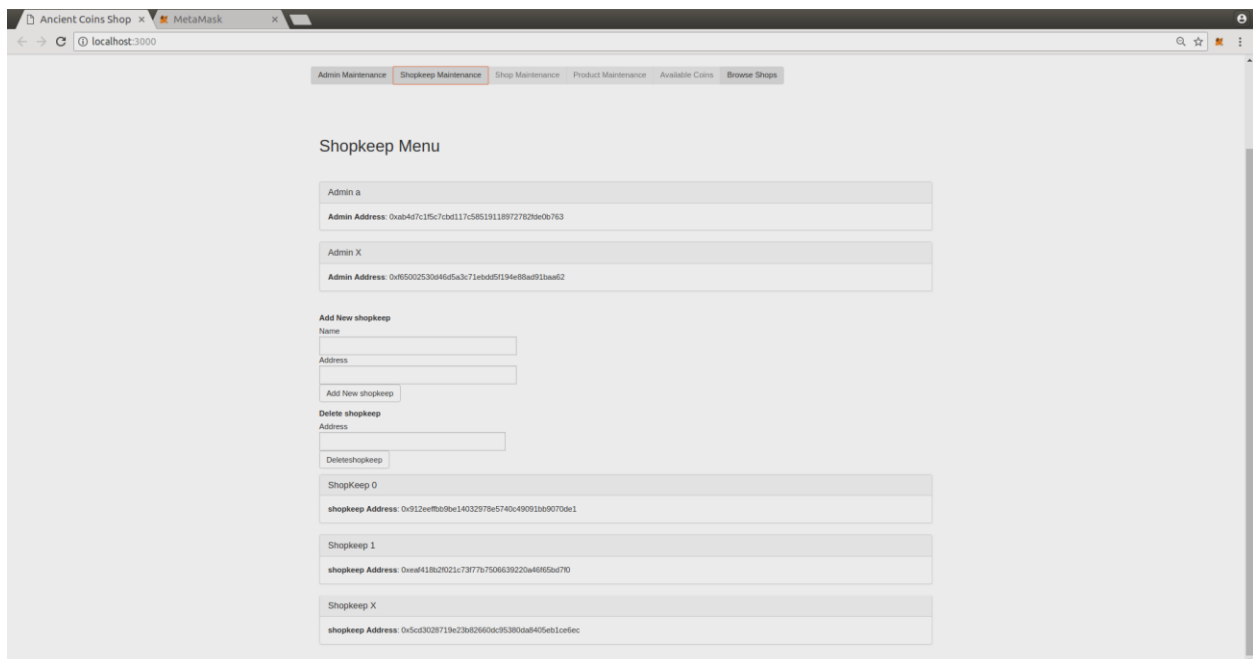
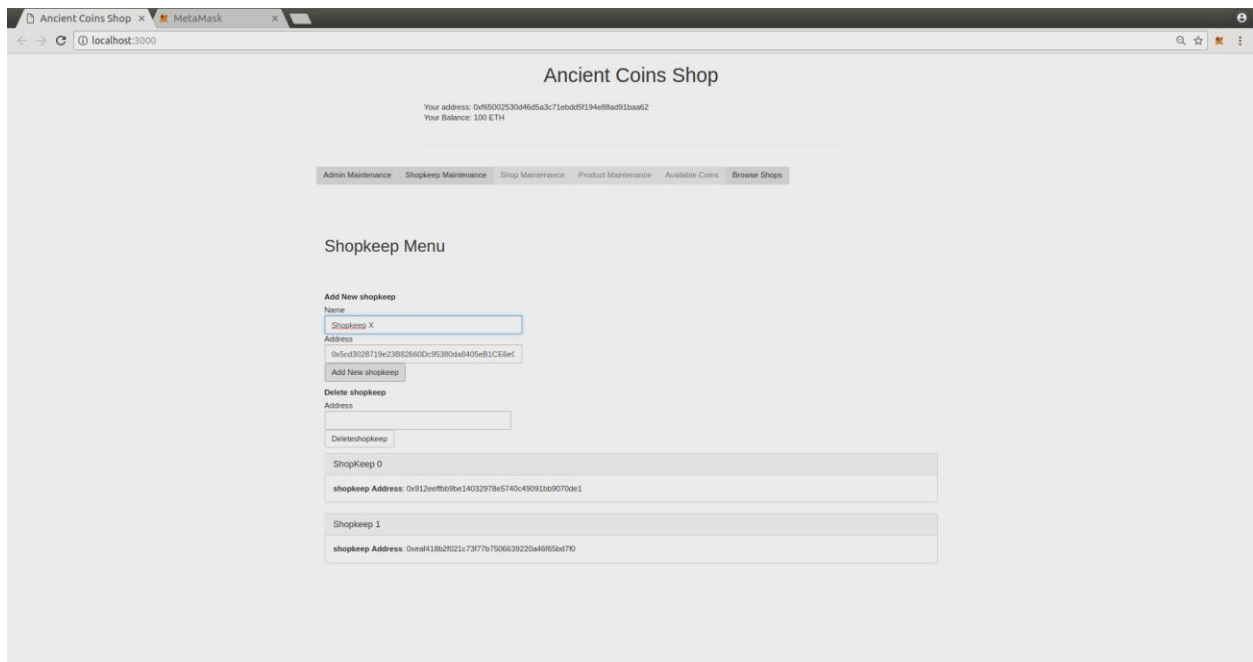
Let's now 'become' Admin X and go and create a ShopKeep

We will be creating Shopkeep X, so will need his address again :

So : Metamask -> Become Shopkeep X -> Copy that address for later use -> Become Admin X again so we can see the right functionality. (refresh the Ancient Coins Shop page, and Click the button again to get started)

Now click on the Shopkeep Maintenance button in the top menu.

Type in 'Shopkeep X' -> paste the address -> click 'Add New Shopkeep' -> Confirm the Ethereum transaction.

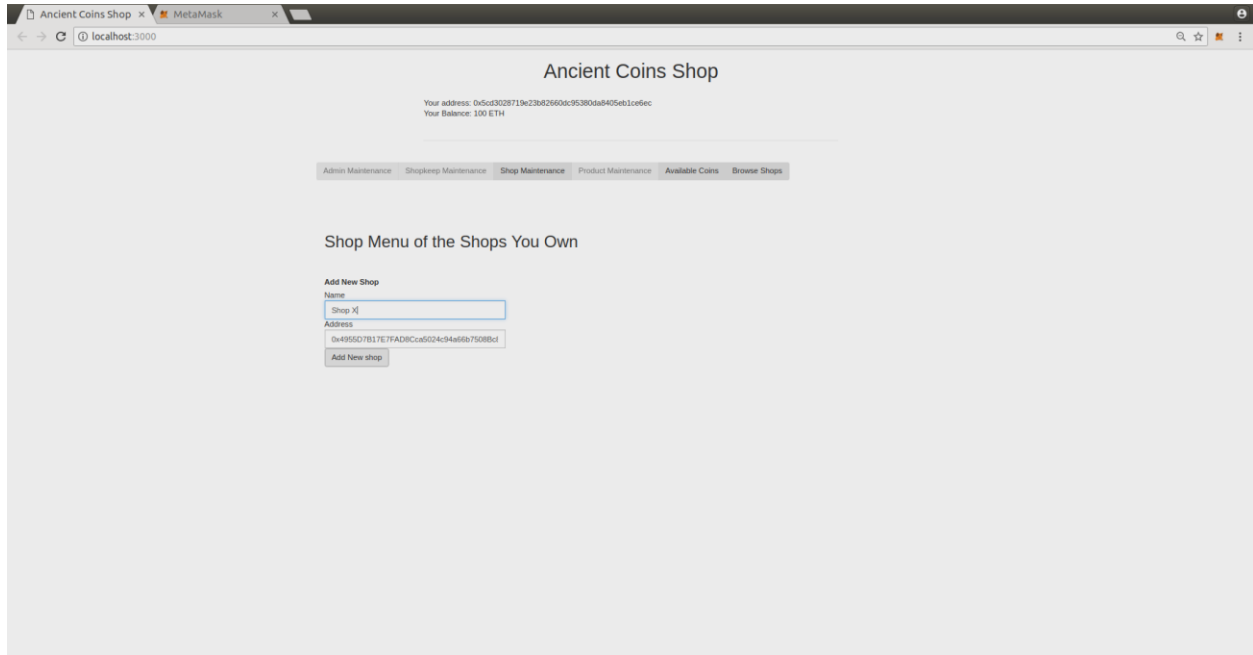


Go through the start page (click Button to get started) again and see if your shopkeep has been added to the shopkeep list. (You'll have to navigate to the Shopkeep Maintenance by clicking on the button in the top nav bar).

Ok, one more time : now we want to create a SHOP.

Go copy the address of 'Shop X' (by becoming it temporarily) , then change your account to 'Shopkeep X' and go back to the Ancient Coins Shop page, refresh the page , which will lead you to the central button again.

Click the central button, and see how the menu options have changed because you are now a 'shopkeep'.



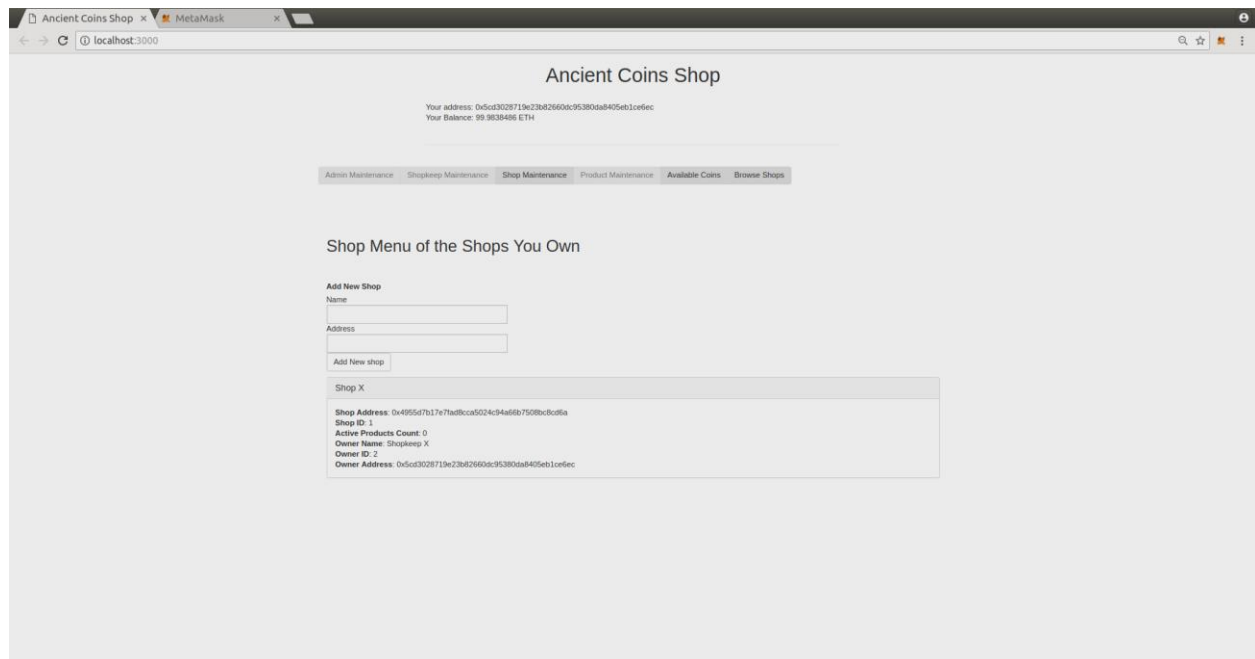
Let's create a new shop:

Name = Shop X

Address = paste from your clipboard.

Click the 'Add New Shop' button.

Confirm the Metamask transaction



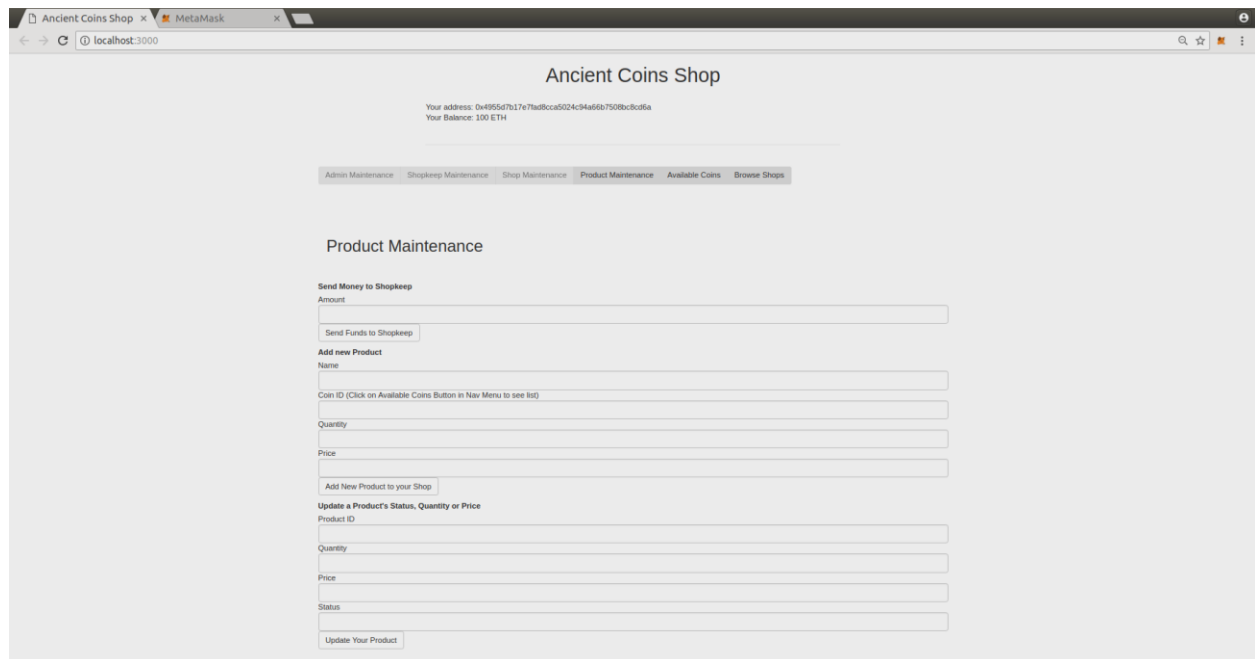
You will see the new Shop's details when next you go to the Shop Maintenance window as this shopkeep.

You will only see 'your' shops.

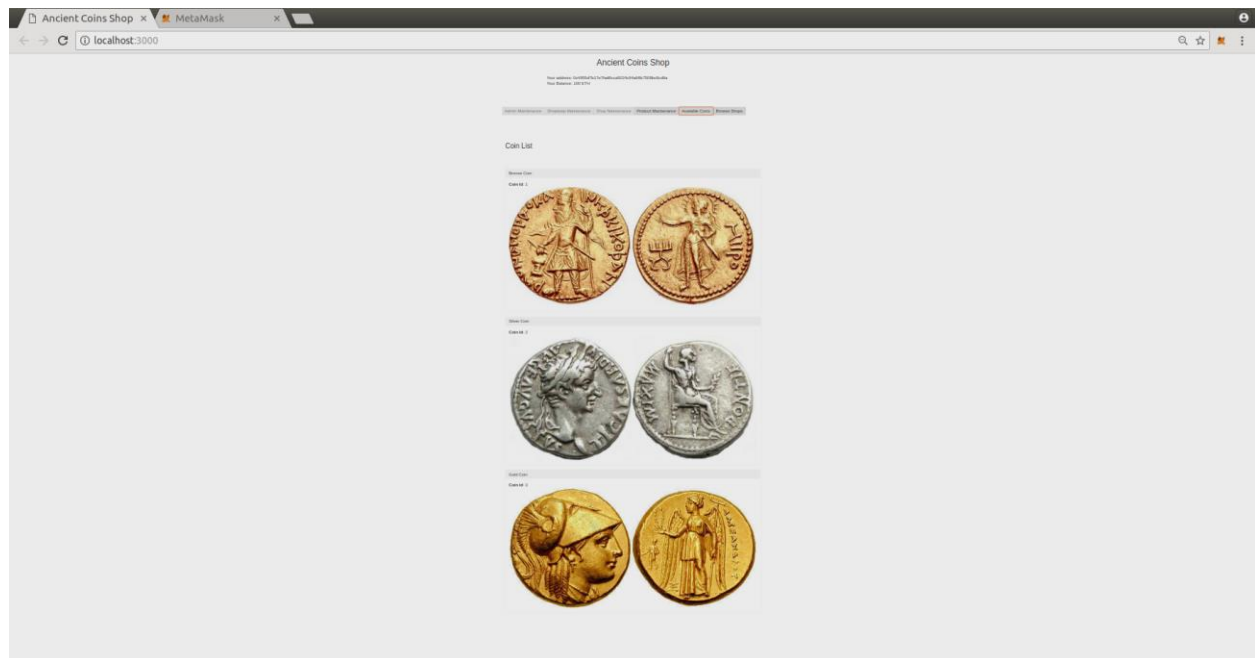
Each shop has only 1 owner, which will be important in terms of limiting who can draw funds from the shop later.

Let's become the Shop, by changing the Metamask account to 'Shop 1'. (be sure to refresh the Ancient Coins Shop page).

Now when you get there, you will see a 'Product Maintenance' page.



Before we create a product, let's see which Coins we can sell : click on the 'Available Coins' button in the Navigation menu at the top.



There are 3 types of coins that can be traded.

Take note of the Coin Id of the coin you want to use as your first Product to have in your shop. (One day I'll learn how to populate drop-downs...)

Go back to the Product Maintenance screen (use the button)

The screenshot shows a web browser window with the title 'Ancient Coins Shop' and a MetaMask extension icon. The address bar shows 'localhost:3000'. The page has a header with the shop name and a navigation bar with links: Admin Maintenance, Shopkeep Maintenance, Shop Maintenance, Product Maintenance (active), Available Coins, and Browse Shops. The main content area is titled 'Product Maintenance' and contains two sections. The first section, 'Send Money to Shopkeep', has an 'Amount' input field and a 'Send Funds to Shopkeep' button. The second section, 'Add new Product', has a 'Name' input field (containing 'Product X'), a 'Coin ID (click on Available Coins Button in New Menu to see list)' input field, a 'Quantity' input field (containing '100'), and a 'Price' input field (containing '2'). Below these fields is an 'Add New Product to your Shop' button. The third section, 'Update a Product's Status, Quantity or Price', has a 'Product ID' input field, a 'Quantity' input field, a 'Price' input field, and a 'Status' input field, followed by an 'Update Your Product' button.

Let's add a product to the shop (a product isn't just the coin, it's the coin, the quantity of the coins you possess and the price you want to sell them for).

Name : Product X

Product ID : 1

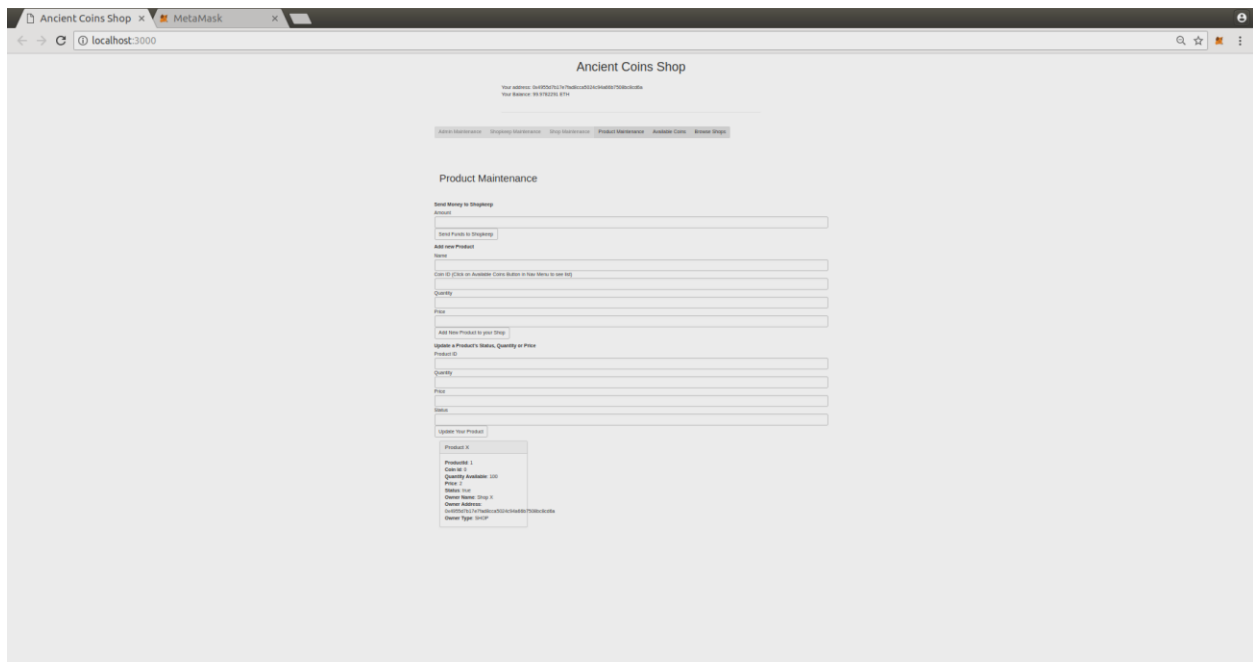
Quantity: 100

Price: 2

Click 'Add New Product to your Shop'

Confirm the MetaMask transaction.

Go back through the Start page to see how your product has been added to your shop.



You can update your product's details using the 'Update' section of the page:
for example:

Product ID: 1

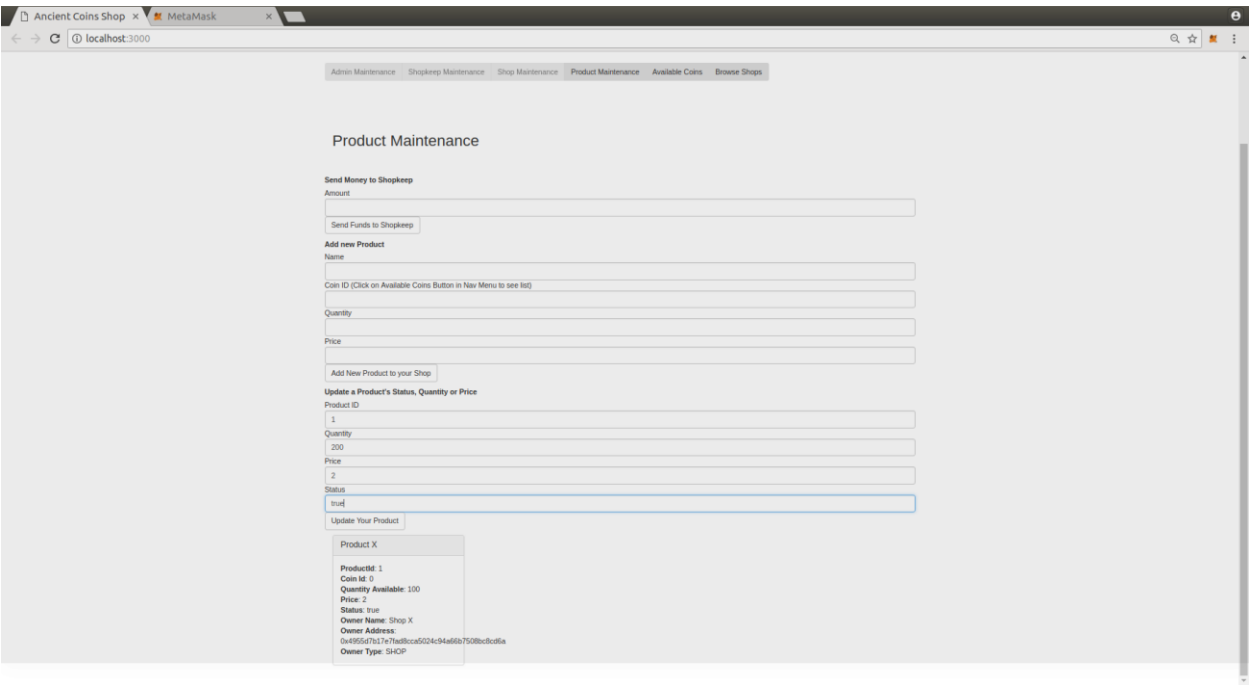
Quantity: 200

Price: 3

Status (either True or False) - this means you can set a product to 'Inactive' status. (there is another page which shows a list of shops and their count of Active Products).

Note that you (as the shop) will only ever see 'your' products on this page to edit, you can't edit other shops' products, nor can they access yours.

Click "Update Your Product" and confirm the MetaMask transaction.

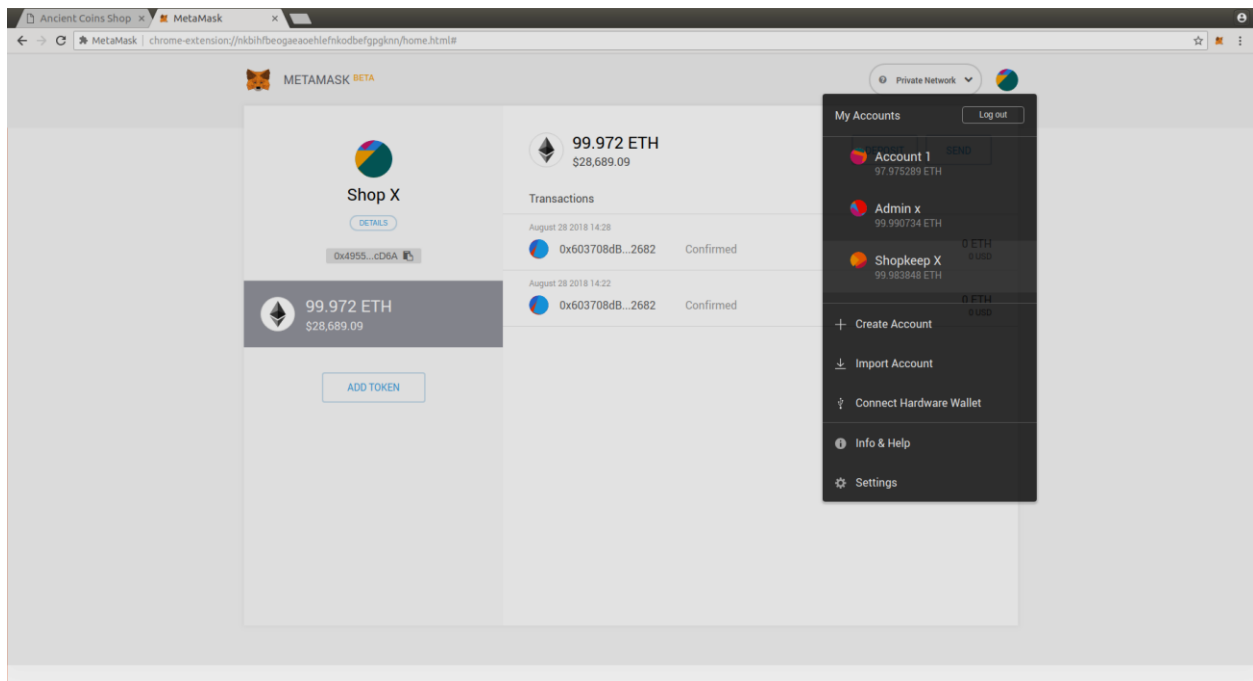
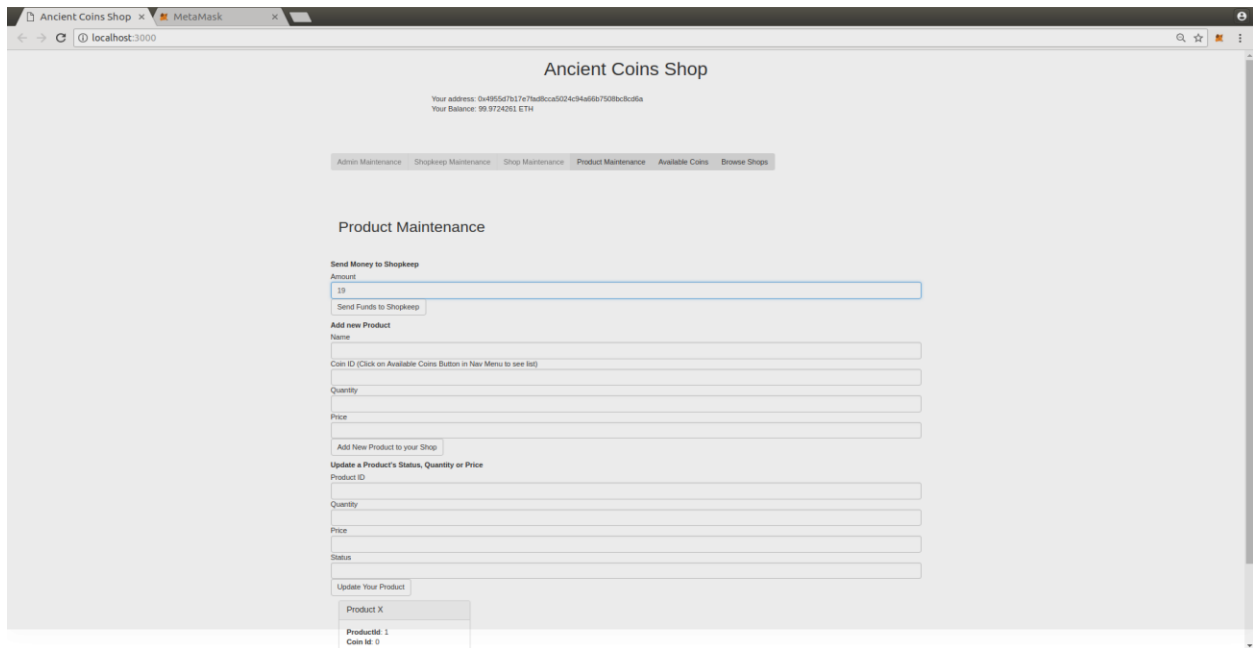


Now let's pay our owner: the shopkeep.

After you've gone through the central button /start page again, put an amount in the 'Amount' text box and click 'Send Funds to Shopkeep'.

Note the balance of your account before and after the transaction.

I'll add some screenshots of the shopkeep's account balance from before and after this 'withdrawal' too.



MetaMask Notification

[< Edit](#)

?

Localhost 8545

Shop X

→

Shopkeep X

CONFIRM

\$5,452.43 USD

◆ 19

GAS FEE

EDIT

\$0.90

◆ 0.00315

TOTAL

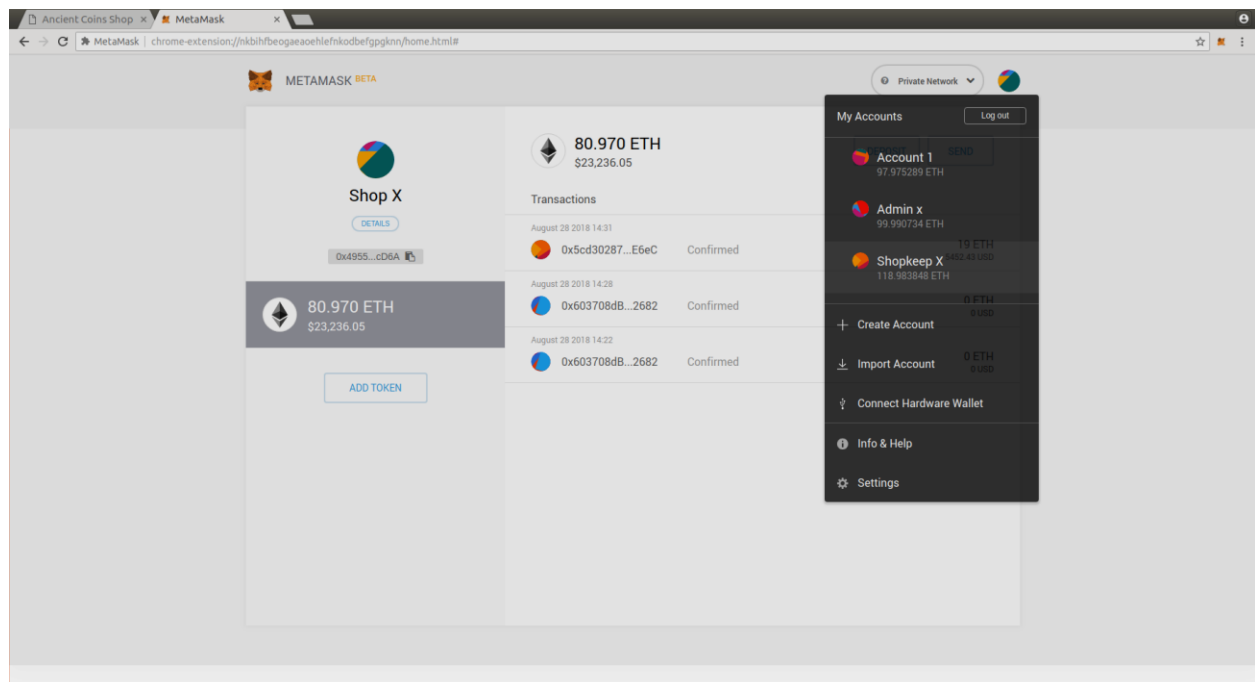
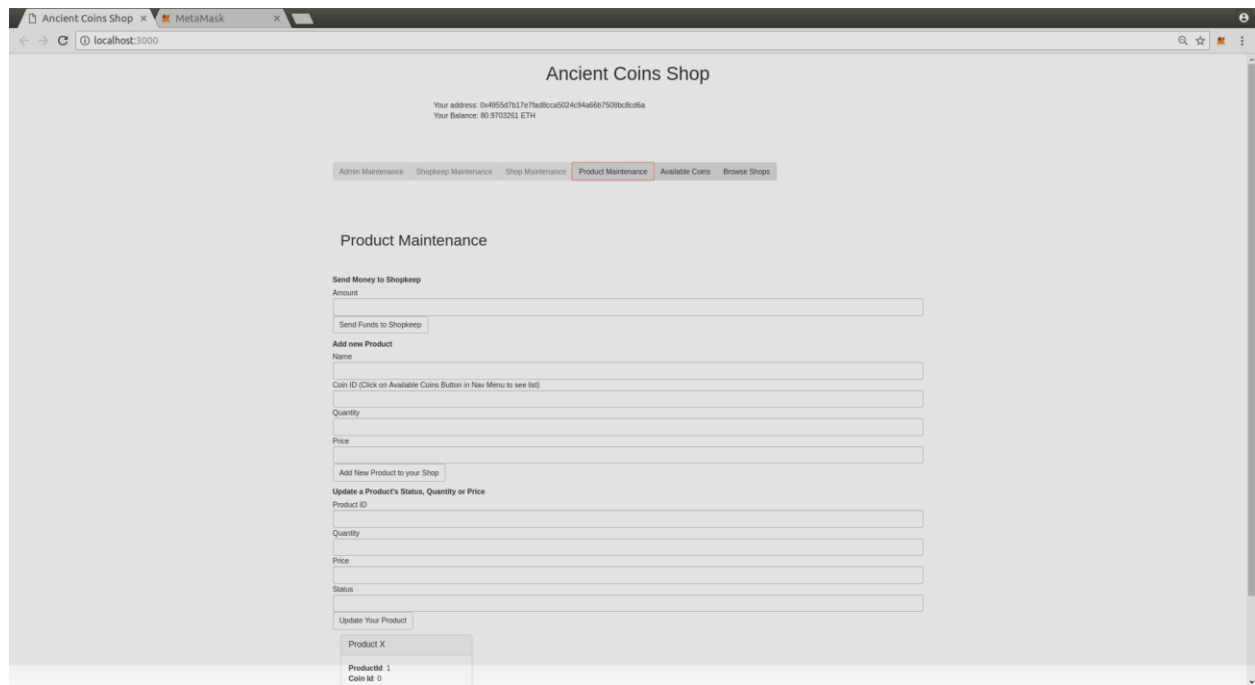
AMOUNT + GAS FEE

\$5,453.33

◆ 19.00315

CANCEL

CONFIRM

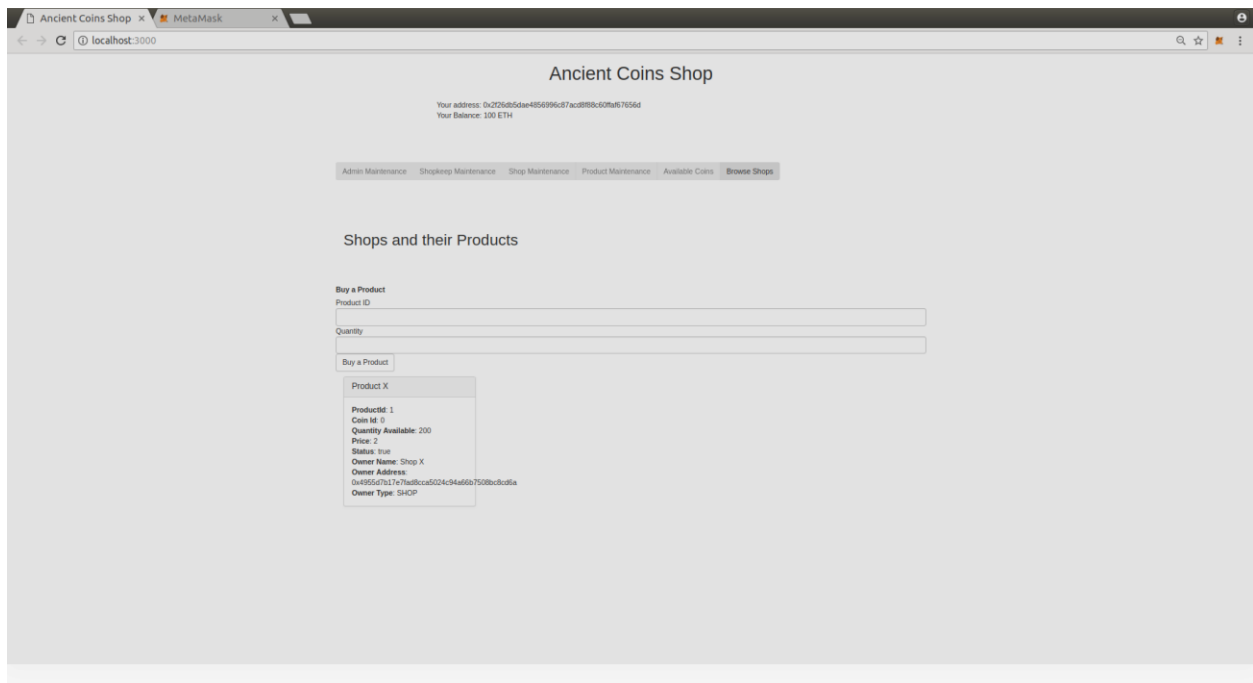


You may need to refresh the page after a small pause.

You can also click on the 'Product Maintenance' button to achieve the same result.

And finally: let's become a shopper. (this is any address who does not turn up in any of the 'Admin','Shopkeep' or 'Shop' structs).

Change the Metamask account to become 'Shopper X', refresh the Ancient Coins Shop page , and peruse all the products in all the shops (ok, the one product in the one shop at this stage, but you would be able to see a list of all the products in all the shops when we add more content)



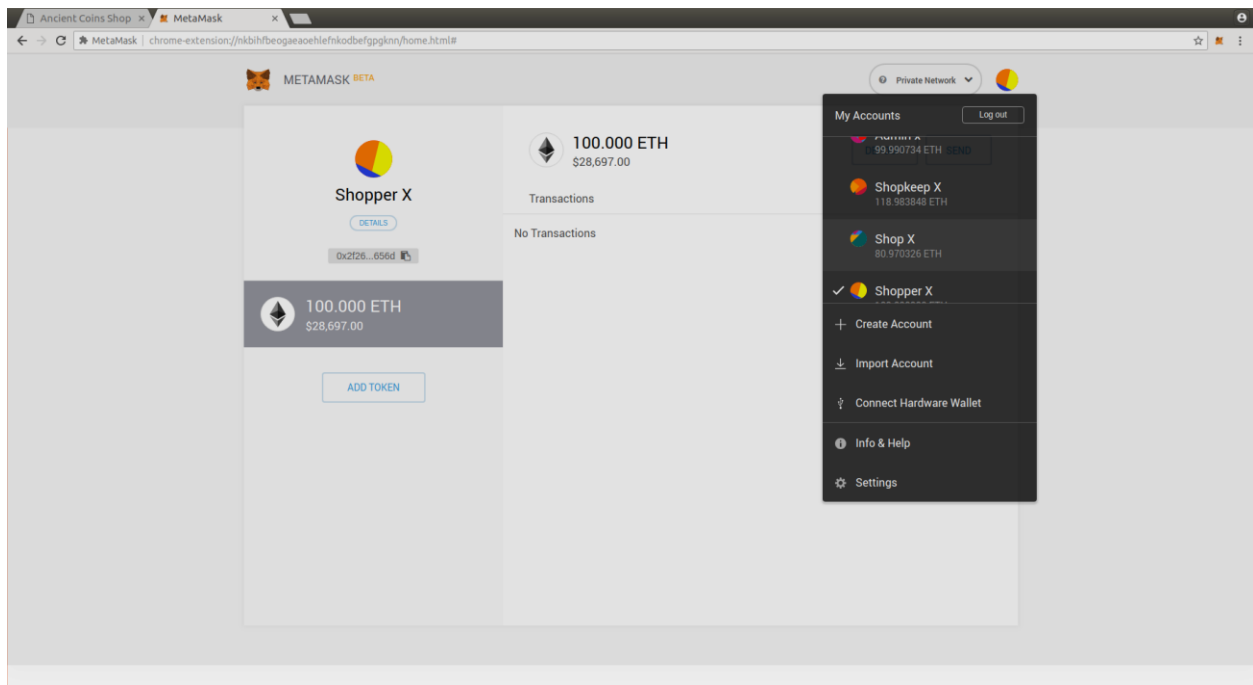
And finally: let's buy a product.

Take note of the balance of this Shopper's account (top of window), and go look at the balance of Shop 1's account before buying a quantity of Product 1's coins.

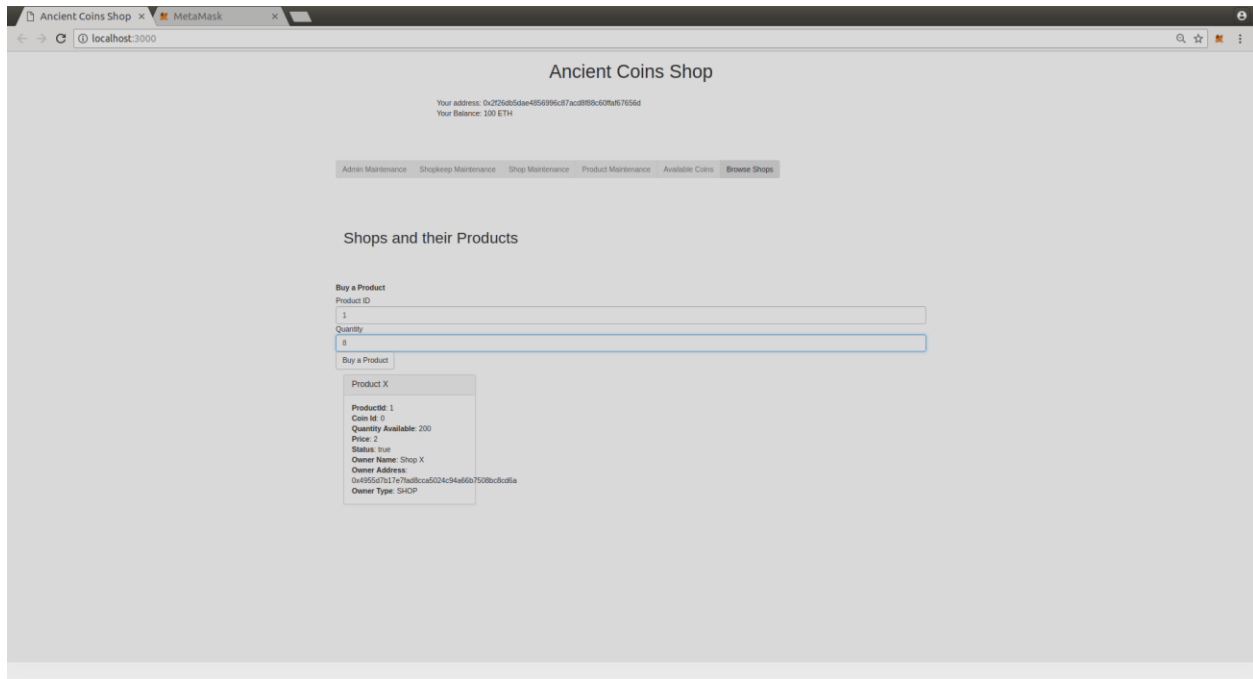
Also take note of the quantity available for sale before and after the purchase.

Let's buy 8 x Product 1 coins.

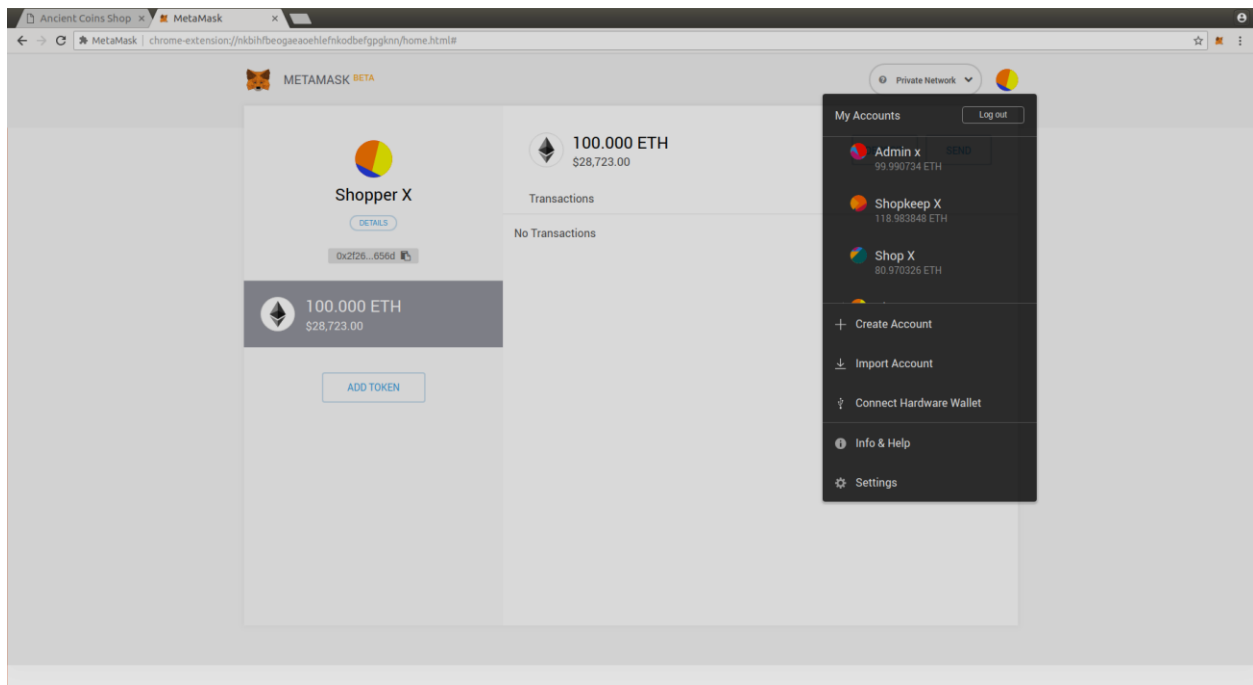
Confirm the transaction and compare the balances of Shopper1, Shop1 and the quantity of Product 1 before and after the 'buy'.



This is going to ask for Metamask 3 Confirmations..



Refresh the page, and you should a different quantity, a different balance for the shopper and when you go look for it, a different balance for Shop 1.



That's pretty much it, there are also 'delete' functions in the Admin and Shopkeep Menu function which allow for the deletion of those types of roles.

Thanks for your time!