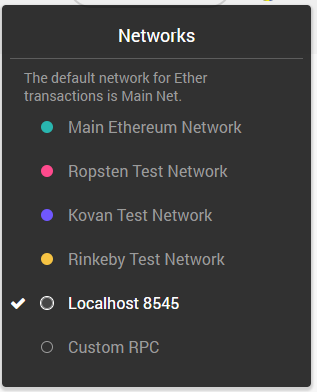
**MetaMask, Fund and Deploy Smart Contract to RinkeBy Test Network**

In **previous** article we touched upon numerous properties of wallets, types of wallets, MetaMask, Private and Public keys. MetaMask can store multiple accounts and multiple private keys can be generated from a seed key.

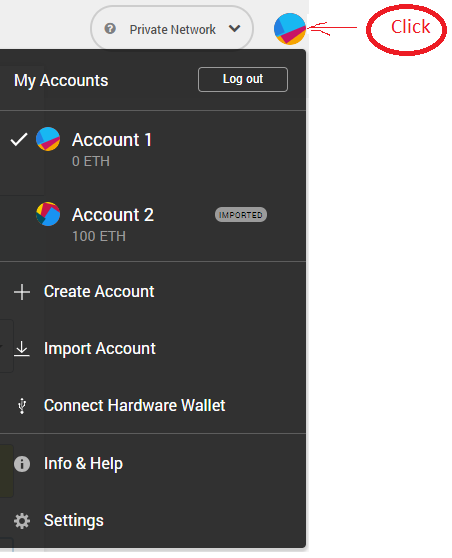
In this article I will further explore a MetaMask and show some of its properties. I will also explain how to fund local Blockchain and test Networks like Rinkeby with Ethers. We will also deploy SC to Ethereum TestNet Rinkeby. With RinkeBy at your disposal there is no need to install full Ethereum node on your computer.

**MetaMask – Connect to TestNet/Ganache**

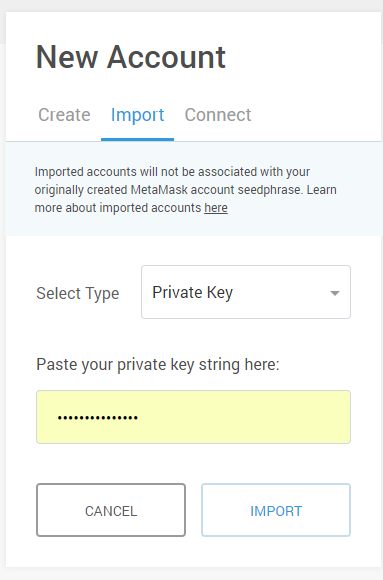
MetaMask as we know is not only used for managing Ethereum, but also injects Web3 into a browser so that DApps can be built. MetaMask can be connected to various networks as shown in below picture.



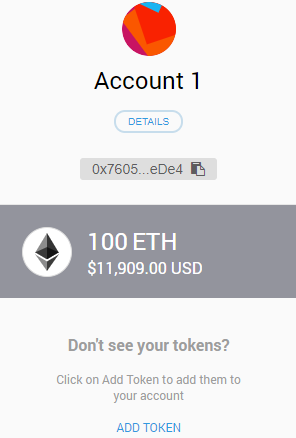
Let’s first connect to LocalHost 8545. Before making connection, you should have local (TestNet/Ganache) blockchain running in your local machine. This version of MetaMask does not automatically import accounts. One would have to manually import. On successful connection with LocalHost click on round colored circle marked as Click in blow picture. Further click on Import Account option.



Import Account click will present below picture. Copy and Paste one of the private keys from the 10 given accounts. Click on Import will create a new account and also populate with 100 Ethers. Remember these are fake Ethers/Money.



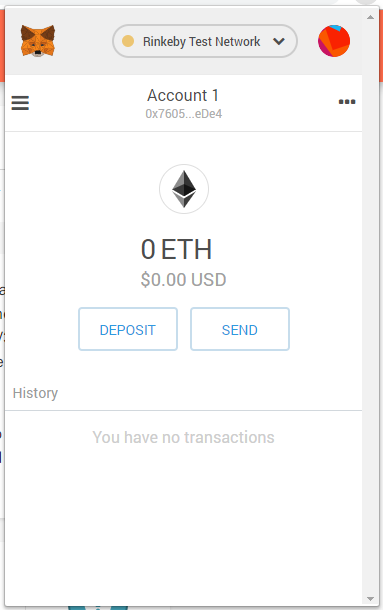
On successful import you should see something like below picture. Voila

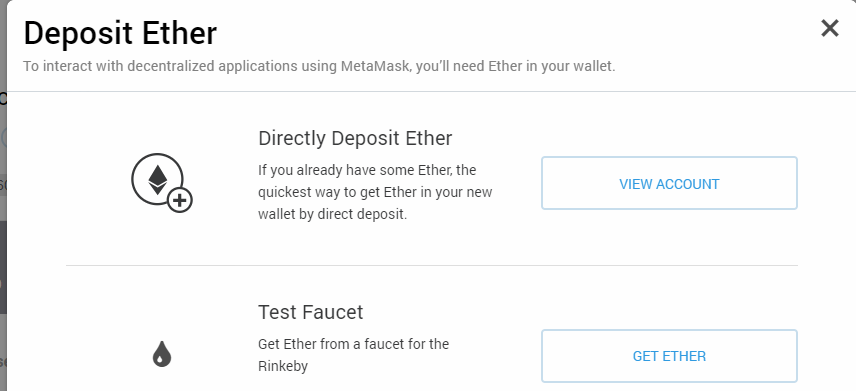


**MetaMask – Connect to Rinkeby**

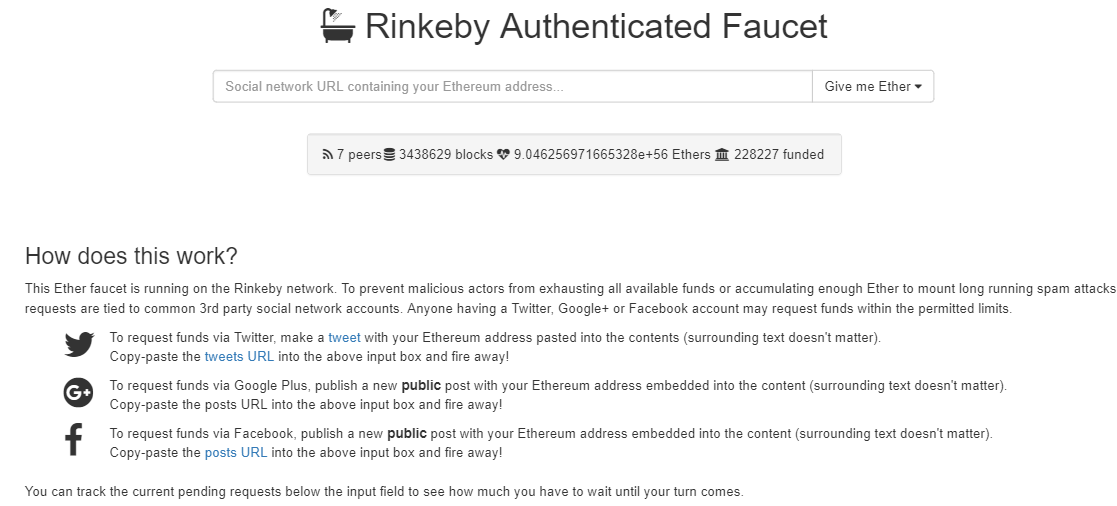
Rinkeby is another Test network, but not residing local on your machine. It’s a gateway to Ethereum blockchain. Rinkeby is hosted by a company [INFURA](https://infura.io/). There is no need to download full blockchain on your local machine which can run in Gigas. Unlike private blockchain ganache Rinkeby accounts does not provide default Ethers. You will have to fund them. Here are the steps.

Change to Rinkeby Test Network from LocalHost 8545. Below screen appears. Click Deposit button

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Let us fund RinkeBy account using “Test Faucet” option. Click on [link](https://www.rinkeby.io/#faucet) which will take you to the site through which your public account on RinkeBy can be funded through 3 social medias Twitter, Facebook or Google Plus. Site looks like below picture. Once steps are completed you should see 18.75 Ethers in RinkeBy account.



Congrats for completing above first step in setting up RinkeBy account. Now with Ethers in your account you don’t have to worry about Gas during the transactions. Second step is to sign up for service in INFURA. On signing tokens are provided for the different Ethereum Networks like below

Main Ethereum Network: [https://mainnet.infura.io/<your-token](https://mainnet.infura.io/%3cyour-token)>

Test Ethereum Network (Rinkeby): [https://rinkeby.infura.io/<your-token](https://rinkeby.infura.io/%3cyour-token)>

Test Ethereum Network (Ropsten): [https://ropsten.infura.io/<your-token](https://ropsten.infura.io/%3cyour-token)>

Test Ethereum Network (Kovan): [https://kovan.infura.io/<your-token](https://kovan.infura.io/%3cyour-token)>

One of the main differences between deploying to local test network and Rinkeby public test network is provider type. When communicating with Rinkeyby networks Truffle HD Wallet is the provider we will use. **I explained HD Wallet in one of my previous articles** (Link to ARTICLE 5). HD Wallet provider will communicate with Rinkeby test network through an infura API. Local test network has Ganache as the provider which automatically provides private/public keys, fake ethers with accounts unlocked. In case of HD provider MetaMask will be the source of accounts, but they will need to be explicitly unlocked using account mnemonic. I explained account mnemonic in **previous article** **(Link to ARTICLE 5).** Below diagram explains how communication flow looks like during the deployment of Smart contract.

RinkeyBy Test Network

Provider (HD Wallet)

Infura API

MetaMask

(Account Mnemonic)

Install HD Wallet through the command 🡪 npm install --save truffle-hdwallet-provider

**PENDING WORK**

1. COPY AND PASTE CODE FROM C:\BlockChain\_Dev\CompileSCUsingJavasScript\deploy\deployToRinkeBy.JS
2. Fix the issue of CODE WITHIN deployToRinkeBy.JS not getting finished in spite of message “Deployment Done”
3. MetaMask account 0xC8B238c7fA9bD3B07a67F76D1850FA8B037E6D58 is used for the Mnemonic “thumb want head control setup pen civil chapter candy then trade win “, but within MetaMask I don’t see the account. Find out from where this account is getting accessed or why MetaMask wallet is not showing this account in case it’s from the same mentioned Mnemonic?