Lab is derived from the following text – Mastering Ethereum, by Andreas M. Antonopoulos, Gavin Wood https://ethereumbook.info/

Requirements Prior to Lab – Laptop, Chrome Browser, Metamask Chrome Extension, Twitter or Google Plus or Facebook account to use with Rinkeby Authenticated Faucet as noted below

Lab Source is from the GitHub link below. All code for the book is under /code section - https://github.com/ethereumbook/ethereumbook/blob/develop/02intro.asciidoc

1. Review the above link for instructions to install Metamask wallet in Chrome browser
2. Metamask link - https://metamask.io
3. Once you create the wallet, switch to the Rinkeby Test Network and not Ropsten
4. To fund your wallet with Test Ether, you need to follow the instructions in Crypto Faucet
5. Example: The instructions to use Twitter works and you can deposit 3 Eth in your wallet
6. Ethereum address is your Metamask wallet address, in Metamask top left below Details

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**Rinkeby Authenticated Faucet**

Social network URL containing your Ethereum address...  

Give me Ether ▼

**How does this work?**

This Ether faucet is running on the Rinkeby network. To prevent malicious actors from exhausting all available funds or accumulating enough Ether to mount long running spam attacks, requests are tied to common 3rd party social network accounts. Anyone having a Twitter, Google+ or Facebook account may request funds within the permitted limits.

To request funds via Twitter, make a [tweet](https://twitter.com) with your Ethereum address pasted into the contents (surrounding text doesn’t matter). Copy-paste the [tweets](https://twitter.com) URL into the above input box and fire away!

To request funds via Google Plus, publish a new **public** post with your Ethereum address embedded into the content (surrounding text doesn’t matter). Copy-paste the [posts](https://plus.google.com) URL into the above input box and fire away!

To request funds via Facebook, publish a new **public** post with your Ethereum address embedded into the content (surrounding text doesn’t matter). Copy-paste the [posts](https://facebook.com) URL into the above input box and fire away!

You can track the current pending requests below the input field to see how much you have to wait until your turn comes.

*The faucet is running invisible reCaptcha protection against bots.*
7. Once your Metamask wallet transaction is complete, you will see deposit of 3 Eth
8. In Metamask, click Details on top left below Account 1, then View Account on Etherscan
9. Open https://Remix.ethereum.org and cut and paste code, **compile using version 0.4.19**

```solidity
pragma solidity >=0.4.19 <0.6.0;
contract Faucet {
    function withdraw(uint withdraw_amount) public {
        require(withdraw_amount <= 100000000000000000);
        msg.sender.transfer(withdraw_amount);
    }
    function () public payable {}
}
```

10. The compile should work, and you should see a green Faucet contract at bottom right
11. Click Run tab and select Environment – Injected Web3 – make sure linked to Rinkeby
12. Under the Faucet Contract, **Deploy using the red button**!
13. Metamask will ask to confirm creation of contract. After contract is created you will see Contract address in Remix on bottom right. Copy the Contract Address to the Clipboard
14. Check out the Contract at https://rinkeby.etherscan.io/ paste Contract Address on top
15. Send Eth to Contract, by opening Metamask wallet – hit SEND -> Recipient address is Contract Address and send 1 Eth. Check Etherscan.io for block transaction
16. Withdraw 0.1 Eth from Contract by Remix by typing in **“1 and 17 zeros”**
17. Metamask screen with 3 transactions – 1 initial test deposit, 1 send and 1 withdraw

18. Etherscan.io transactions of the Metamask wallet with Address starting 0x1717...

19. Etherscan.io transactions for Contract address 0x77d7...also click on Internal Txns