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Sep 7 · 2 min read

How to deploy a smart contract on ethereum testnet?

This is a step by step tutorial for people who want to learn how to deploy a contract to ethereum testnet. More and more people are interested on smart contract development on ethereum nowadays. When I started to learn solidity, the first thing I wanted to do is to deploy a contract and see what a smart contract can do on the blockchain. Therefore I decided to write a blog to share my experience about how I deployed contracts on ethereum testnet.

1. Write a contract. In this case, we are using the simplest contract from solidity official document.

```
pragma solidity ^0.4.0;

contract SimpleStorage {
    uint storedData;

    function set(uint x) {
        storedData = x;
    }

    function get() constant returns (uint) {
        return storedData;
    }
}
```

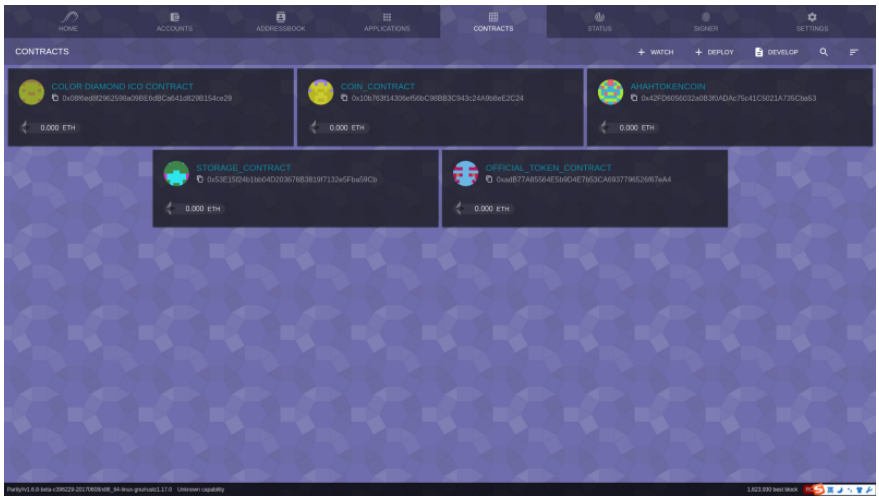
2. The testnet I'm using here is Roptsen. You can get some free ether for deploying contracts at this faucet website: http://faucet.ropsten.be:3001/.

3. Using a wallet to deploy the contract. I'm using Parity for myself. There are many other options on the market. Should be very similar. For starting parity to connect with Ropsten testnet, you can use following command:

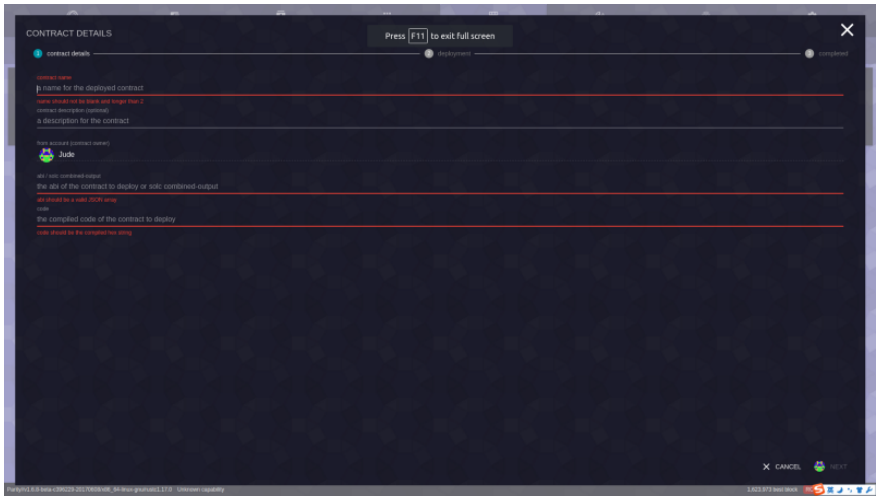
```
$ parity — chain ropsten — bootnodes
"enode://20c9ad97c081d63397d7b685a412227a40e23c8bdc6688c6f37
e97cfbc22d2b4d1db1510d8f61e6a8866ad7f0e17c02b14182d37ea7c3c8
b9c2683aeb6b733a1@52.169.14.227:30303,enode://6ce05930c72abc
632c58e2e4324f7c7ea478cec0ed4fa2528982cf34483094e9cbc9216e7a
```

```
a3496912425 76d552a2a56aaeae426c5303ded677ce455ba1acd9d@13.84
.180.240:30303"
```

open your browser at localhost:8080, you can see parity web UI:



4. Open the *contract* tab, click *deploy* button, you can fill the form to submit your contract to the testnet.



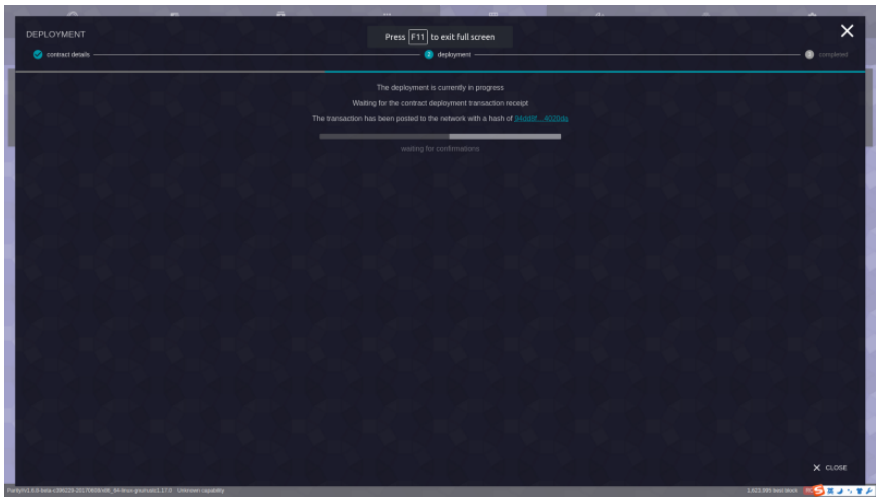
5. To complete the form, you need to get the abi / solc combined ouput for the contract. You can save the contract in a *storage.sol* file. Using the following command to compile this file to get the output (you might to need to install solc first):

```
$ solc --combined-json abi,bin storage.sol
```

the output is:


```
{"contracts":{"storage.sol:SimpleStorage":{"abi":"
[{\"constant\":false,\"inputs\":
[{\"name\":\"x\",\"type\":\"uint256\"}],\"name\":\"set\",\"o
utputs\":
[],\"payable\":false,\"stateMutability\":\"nonpayable\",\"ty
pe\":\"function\"},{\"constant\":true,\"inputs\":
[],\"name\":\"get\",\"outputs\":
[{\"name\":\"\",\"type\":\"uint256\"}],\"payable\":false,\"s
tateMutability\":\"view\",\"type\":\"function\"}]","bin":"60
606040523415610000f57600080fd5b5b60ce8061001e6000396000f30060
606040526000357c0100000000000000000000000000000000000000000000000
000000000000900463ffffffff16806360fe47b114604757806d4ce6
3c146067575b600080fd5b3415605157600080fd5b606560048080359060
200190919050506608d565b005b3415607157600080fd5b60776098565b60
405180828152602001915050604051809103905f35b806000819055505b50
565b6000805490505b905600a165627a7a72305820fbe58fb47842b138c5
fd44d533bd6dd9324435d415c78395941197f0e01d69950029"}},"versi
on":"0.4.16+commit.d7661dd9.Linux.g++"}
```


6. After you complete the form for deploying the contract, you can submit the deployment request to deploy it to the testnet.



7. Now you can see the deployed contract on the testnet blockchian: https://ropsten.etherscan.io/address/0x18A0fa8e30f419c26744dBDC149c7de0fCea92D0

Deploying smart contracts is fun. It is even more fun to interact with them on the blockchain. I usually learn more and faster when my hands get dirty. If you have any other questions, please leave your questions in the comments. Thanks!