# Udacity Blockchain Nanodegree Project 8 Real Estate Capstone Write-Up

## 1. Contract Address

Steps followed to deploy the smart contracts included:

* Downloaded HDWalletProvider: *`npm install truffle-hdwallet-provider`*
* Added Rinkeby network configuration to truffle.js (Infura hosted and provided by HDWalletProvider)
* To compile the contracts: `*truffle compile*`
* To migrate the contracts to the Rinkey network: `*truffle migrate --reset --network rinkeby*`
* Terminal output from the above command is as follows (includes highlighted Address of each Contract)

Compiling your contracts...

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> Everything is up to date, there is nothing to compile.

Migrations dry-run (simulation)

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> Network name: 'rinkeby-fork'

> Network id: 4

> Block gas limit: 10000000 (0x989680)

1\_initial\_migration.js

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Deploying 'Migrations'

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> block number: 6524116

> block timestamp: 1590017155

> account: 0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed

> balance: 2.909773781999999701

> gas used: 210237 (0x3353d)

> gas price: 10 gwei

> value sent: 0 ETH

> total cost: 0.00210237 ETH

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> Total cost: 0.00210237 ETH

2\_deploy\_contracts.js

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Deploying 'SquareVerifier'

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> block number: 6524118

> block timestamp: 1590017162

> account: 0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed

> balance: 2.899575601999999701

> gas used: 992455 (0xf24c7)

> gas price: 10 gwei

> value sent: 0 ETH

> total cost: 0.00992455 ETH

Deploying 'SolnSquareVerifier'

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> block number: 6524119

> block timestamp: 1590017182

> account: 0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed

> balance: 2.864597001999999701

> gas used: 3497860 (0x355f84)

> gas price: 10 gwei

> value sent: 0 ETH

> total cost: 0.0349786 ETH

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> Total cost: 0.04490315 ETH

Summary

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> Total deployments: 3

> Final cost: 0.04700552 ETH

Starting migrations...

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> Network name: 'rinkeby'

> Network id: 4

> Block gas limit: 10000000 (0x989680)

1\_initial\_migration.js

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Deploying 'Migrations'

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> transaction hash: 0x1664f1f630f6ca892beaa068b411a99cbf9d596bf56605d9bab1c51fa9f4c8cd

> Blocks: 0 Seconds: 12

> contract address: 0x9fb5F3612c10Bd60785980048B1C082B7A8f810B

> block number: 6524119

> block timestamp: 1590017225

> account: 0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed

> balance: 2.909623781999999701

> gas used: 225237 (0x36fd5)

> gas price: 10 gwei

> value sent: 0 ETH

> total cost: 0.00225237 ETH

> Saving migration to chain.

> Saving artifacts

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> Total cost: 0.00225237 ETH

2\_deploy\_contracts.js

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Deploying **'SquareVerifier'**

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> transaction hash: 0x28bcc7d81dec79c37b51d589a9627838680b348d52ceaca108c490dfaee8ab5c

> Blocks: 0 Seconds: 12

> contract address: **0xcbAD0c3459B7AA211Ffdb4a486A56CF45AC894A9**

> block number: 6524121

> block timestamp: 1590017255

> account: 0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed

> balance: 2.899275601999999701

> gas used: 992455 (0xf24c7)

> gas price: 10 gwei

> value sent: 0 ETH

> total cost: 0.00992455 ETH

Deploying **'SolnSquareVerifier'**

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> transaction hash: 0xd86e014ec23b735f23c183c986fe881b4f1617f1d41ebb398b8b0d9ceeb1e0b1

> Blocks: 0 Seconds: 8

> contract address: **0x906f1983026fbAF7d62717E608F500c8719B13DB**

> block number: 6524122

> block timestamp: 1590017270

> account: 0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed

> balance: 2.862647001999999701

> gas used: 3662860 (0x37e40c)

> gas price: 10 gwei

> value sent: 0 ETH

> total cost: 0.0366286 ETH

> Saving migration to chain.

> Saving artifacts

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> Total cost: 0.04655315 ETH

Summary

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> Total deployments: 3

> Final cost: 0.04880552 ETH

## 2. Etherscan

* The previously deployed **SolnSquareVerifier** contract can be viewed on Etherscan: <https://rinkeby.etherscan.io/address/0x906f1983026fbAF7d62717E608F500c8719B13DB>

## 3. Mint Tokens

1. Used My Ether Wallet (*myetherwallet.com.com / Access My Wallet / Metamask / Menu / Contract / Interact with Contract*)
2. Entered **SolnSquareVerifier** contract address (from step 1 - **0x906f1983026fbAF7d62717E608F500c8719B13DB)**
3. Entered **SolnSquareVerifier** ABI (from *eth-contract/build/contracts/SolnSquareVerifier.json* ABI array)
4. Select function **mint** (note this does not require the proof, unlike the **mintToken** function)
5. Enter Metamask Rinkby network **Account1** address (**0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed**) as **to**
6. Enter any number for **tokenId** (i.e. **11**)
7. This process is repeated to generate 7 tokens (tokenId’s 11, 22, 33, 44… 77)

## 4. OpenSea

1. To view an item on open sea to following format is used: https://rinkeby.opensea.io/assets/<asset\_contract\_address>/<token\_id>
2. I.e. the following links to the previously minted token: <https://rinkeby.opensea.io/assets/0x906f1983026fbaf7d62717e608f500c8719b13db/77>
3. Open sea marketplace to view all minted tokens: <https://rinkeby.opensea.io/category/unidentified-contract-v386/>
4. Tokens 11 and 22 were listed for sale at a price of 0.15 ether and 0.2 ether respectively (from **Account1** **0x4EA55452B992b81C95f2077c15C09aCa1c6Fdaed**)
5. Tokens 11 and 22 were purchased from **Account2** (**0xBD75FB68308cA7712Dcfc04884931d5797079140**)

## 5. Version Numbers

* Node: v10.20.1
* Truffle: v5.1.26