









```

PS D:\Capstone\Blockchain-Capstone-master> docker run -v D:\Capstone\Blockchain-Capstone-master\zokrates\code:/home/zokrates/code -ti zokrates/zokrates /bin/bash
zokrates@6390f5109893:~$ cd code
zokrates@6390f5109893:~/code$ cd squay=re
bash: cd: squay=re: No such file or directory
zokrates@6390f5109893:~/code$ cd square
zokrates@6390f5109893:~/code/square$ ls
square.code
zokrates@6390f5109893:~/code/square$ zokrates compile -i square.code
Compiling square.code

Compiled code written to 'out'
zokrates@6390f5109893:~/code/square$ zokrates setup
Performing setup...
WARNING: You are using the G16 scheme which is subject to malleability. See zokrates.github.io/toolbox/proving_schemes.html#g16-malleability for implications.
Verification key written to 'verification.key'
Proving key written to 'proving.key'
Setup completed
zokrates@6390f5109893:~/code/square$ zokrates compute-witness -a 3 9
Computing witness...
Witness file written to 'witness'
zokrates@6390f5109893:~/code/square$ zokrates generate-proof
Generating proof...
WARNING: You are using the G16 scheme which is subject to malleability. See zokrates.github.io/toolbox/proving_schemes.html#g16-malleability for implications.
Proof written to 'proof.json'
zokrates@6390f5109893:~/code/square$ zokrates export-verifier
Exporting verifier...
Verifier exported to 'verifier.sol'
zokrates@6390f5109893:~/code/square$ █

```

<div> <div>↑</div> <div> <div>« Capstone » Blockchain-Capstone-master » zokrates » code » square</div> <div> <div>↕</div> <div>↻</div> </div> </div> <div> <div>🔍</div> <div>Search square</div> </div> </div>				
Name	Date modified	Type	Size	
 out	12-Jan-22 2:07 PM	File	1 KB	
 out.code	12-Jan-22 2:07 PM	CODE File	1 KB	
 proof.json	12-Jan-22 2:07 PM	JSON File	1 KB	
 proving.key	12-Jan-22 2:07 PM	KEY File	4 KB	
 square.code	12-Jan-22 2:07 PM	CODE File	1 KB	
 verification.key	12-Jan-22 2:07 PM	KEY File	2 KB	
 verifier.sol	12-Jan-22 2:07 PM	SOL File	24 KB	
 witness	12-Jan-22 2:07 PM	File	1 KB	

```
PS D:\Capstone\Blockchain-Capstone-master\eth-contracts> truffle test test/TestERC721Mintable.js
Using network 'development'.

=====
> Compiling .\contracts\ERC721Mintable.sol
> Compiling .\contracts\Oracize.sol

> compilation warnings encountered:

/D/Capstone/Blockchain-Capstone-master/eth-contracts/contracts/Oracize.sol:320:7: Warning: Unreachable code.
    _networkID; // silence the warning and remain backwards compatible
    ^-----^
/D/Capstone/Blockchain-Capstone-master/eth-contracts/contracts/Oracize.sol:373:7: Warning: Unreachable code.
    _myid; _result; _proof; // Silence compiler warnings
    ^-----^
/D/Capstone/Blockchain-Capstone-master/eth-contracts/contracts/Oracize.sol:371:5: Warning: Function state mutability can be restricted to pure
function _callback(bytes32 _myid, string memory _result, bytes memory _proof) public {
    ^ (Relevant source part starts here and spans across multiple lines).

Contract: TestERC721Mintable
  match ERC721 spec
https://s3-us-west-2.amazonaws.com/udacity-blockchain/capstone/0
  ✓ should return full tokenURI (738ms)
  ✓ should return total supply (121ms)
  ✓ should get token balance (246ms)
  ✓ should return token url (138ms)
  ✓ should transfer token from one owner to another (3480ms)
  have ownership properties
err in minting address
  ✓ should fail when minting when address is not contract owner (483ms)
  ✓ should return contract owner (142ms)

7 passing (58s)
```

[illegible]

```
2 passing (12s)
```

```
PS D:\Capstone\Blockchain-Capstone-master\eth-contracts> truffle migrate --network rinkeby
```

```
Compiling your contracts...
```

```
> Compiling .\contracts\ERC721Mintable.sol
```

```
> Compiling .\contracts\Oraclize.sol
```

```
> compilation warnings encountered:
```

```
/D/Capstone/Blockchain-Capstone-master/eth-contracts/contracts/Oraclize.sol:320:7: Warning: Unreachable code.  
    _networkID; // silence the warning and remain backwards compatible  
    ^^^^^^^^
```

```
,/D/Capstone/Blockchain-Capstone-master/eth-contracts/contracts/Oraclize.sol:373:7: Warning: Unreachable code.  
    _myid; _result; _proof; // Silence compiler warnings  
    ^^^^^^^^^^^^^^^^^^^
```

```
,/D/Capstone/Blockchain-Capstone-master/eth-contracts/contracts/Oraclize.sol:371:5: Warning: Function state mutability can be restricted to pure  
function __callback(bytes32 _myid, string memory _result, bytes memory _proof) public {  
    ^ (Relevant source part starts here and spans across multiple lines).
```

```
> Artifacts written to D:\Capstone\Blockchain-Capstone-master\eth-contracts\build\contracts
```

```
> Compiled successfully using:
```

```
- solc: 0.5.12+commit.7709ece9.Emscripten.clang
```

```
Migrations dry-run (simulation)
```

```
=====
```

```
> Network name: 'rinkeby-fork'
```

```
> Network id: 4
```

```
> Block gas limit: 0x1c95111
```

```
1_initial_migration.js
```

```
=====
```

```
Deploying 'Migrations'
```

```
-----
```

```
> block number: 9977787
```

```
> block timestamp: 1641979642
```

```
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19
```

```
> balance: 18.606635908353647284
```

```
> gas used: 248741
```

```
> gas price: 10 gwei
```

```
> value sent: 0 ETH
```

```
> total cost: 0.00248741 ETH
```

```
-----
```

1\_initial\_migration.js

=====

Deploying 'Migrations'

-----

> block number: 9977787  
> block timestamp: 1641979642  
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19  
> balance: 18.606635908353647284  
> gas used: 248741  
> gas price: 10 gwei  
> value sent: 0 ETH  
> total cost: 0.00248741 ETH

-----  
> Total cost: 0.00248741 ETH

2\_deploy\_contracts.js

=====

Deploying 'Verifier'

-----

> block number: 9977789  
> block timestamp: 1641979650  
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19  
> balance: 18.594394898353647284  
> gas used: 1197078  
> gas price: 10 gwei  
> value sent: 0 ETH  
> total cost: 0.01197078 ETH

Deploying 'SolnSquareVerifier'

-----

> block number: 9977790  
> block timestamp: 1641979668  
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19  
> balance: 18.555719838353647284  
> gas used: 3867506  
> gas price: 10 gwei  
> value sent: 0 ETH  
> total cost: 0.03867506 ETH

-----  
> Total cost: 0.05064584 ETH

#### Summary

```
> Total deployments: 3
> Final cost: 0.05313325 ETH
```

#### Starting migrations...

```
> Network name: 'rinkeby'
> Network id: 4
> Block gas limit: 0x1c9c380
```

#### 1\_initial\_migration.js

##### Deploying 'Migrations'

```
> transaction hash: 0xabe7420ef6d7d13335af6d25c67c19c2a710ebbe801c32143b8a0dadde48bb1d
> Blocks: 0
> contract address: 0x6E3aD4F9D9a426AA1DBe01f85985393E3642d2bf
> block number: 9977790
> block timestamp: 1641979706
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19
> balance: 18.606857948353647284
> gas used: 226537
> gas price: 10 gwei
> value sent: 0 ETH
> total cost: 0.00226537 ETH
```

```
> Saving migration to chain.
> Saving artifacts
```

```
> Total cost: 0.00226537 ETH
```

2\_deploy\_contracts.js

=====

Deploying 'Verifier'

-----

> transaction hash: 0x6d0ac8e23acbbf86b802ead756041183031752c5e3af4fdca2ca6a66504affac  
> Blocks: 1 Seconds: 9  
> contract address: 0xf2CffDA7a1377f90b8ca328549229c23690e3224  
> block number: 9977792  
> block timestamp: 1641979736  
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19  
> balance: 18.596624458353647284  
> gas used: 977586  
> gas price: 10 gwei  
> value sent: 0 ETH  
> total cost: 0.00977586 ETH

Deploying 'SolnSquareVerifier'

-----

> transaction hash: 0x90aadf4668c825aa2b5e34b7b783cd9a4208ffee81038159c5291b3dc72425e8  
> Blocks: 0 Seconds: 5  
> contract address: 0xA88d84aeb054bd80043F218108E83424537b221E  
> block number: 9977793  
> block timestamp: 1641979751  
> account: 0xCaD33Ab2D17f270EFA7Df727e0Ef6343cC938d19  
> balance: 18.563378638353647284  
> gas used: 3324582  
> gas price: 10 gwei  
> value sent: 0 ETH  
> total cost: 0.03324582 ETH

> Saving migration to chain.

> Saving artifacts

-----

> Total cost: 0.04302168 ETH

Summary

=====

> Total deployments: 3  
> Final cost: 0.04528705 ETH

PS D:\Capstone\Blockchain-Capstone-master\eth-contracts> |

## Interact with contract

Function

### Transaction initiated



Once completed, the token amount will be deposited to the address you provided. This should take a few minutes depending on how congested the Ethereum network is.

[View on Etherscan](#)



[View Progress](#)

Close

Need help? [Contact support](#)



Transaction Hash: 0x1ef98bd28a034ee28c37ed4f41ac69a1b9c92997debcc8599a10af3b24b031e3

Status: Success

Block: 9977968 1 Block Confirmation

Timestamp: 5 secs ago (Jan-12-2022 10:12:57 AM +UTC)

From: 0xcad33ab2d17f270efa7df727e0ef6343cc938d19

Interacted With (To): Contract 0xa88d84aeb054bd80043f218108e83424537b221e

Tokens Transferred: From 0x00 To 0xcad33ab2d17f2... For ERC-721 TokenID [10] DIVToken (DIV)

Value: 0 Ether (\$0.00)

Transaction Fee: 0.0002757000033084 Ether (\$0.00)

Gas Price: 0.00000001000000012 Ether (1.000000012 Gwei)

Transaction Confirmation

SENDING

0 RIN

\$0.00

→

TO ADDRESS

0xA88d84aeb054bd80043F218108E83424537b221E

TRANSACTION FEE

0.000241 RIN/ ~\$0.00

TOTAL

0.000241 RIN/ ~\$0.00

Make sure all the information is correct. Canceling or reversing a transaction cannot be guaranteed. You will still be charged gas fee even if transaction fails. [Learn more.](#)

Approve 1 transaction on Web3 Wallet.

Transaction details

Cancel

Confirm & Send

Rinkeby Test Network

Account 1 → 0xA88...221E

New address detected! Click here to add to your address book.

<https://www.myetherwallet.com>

MINT #39

DETAILS DATA HEX

Estimated gas fee 0.00024154 0.000242 ETH

Site suggested Maybe in 30 seconds Max fee: 0.00024154 ETH

Total 0.00024154 0.00024154 ETH

Amount + gas fee Max amount: 0.00024154 ETH

Want to help improve MEW web?

Take a short survey

No, thanks

rinkeby.etherscan.io/token/0xA88d84aeb054bd80043f218108E83424537b221E

Max Total Supply:

10 DIV

Holders:

1

Transfers:

9

Contract:

Transfers

Holders

Contract

A total of 9 transactions found

Txn Hash	Method	Age	From
<a href="#">0xc8f5648142783f21fe6...</a>	Mint	29 secs ago	0x000000000000000000...
<a href="#">0x457d79c1ad8dc04396...</a>	Mint	44 secs ago	0x000000000000000000...
<a href="#">0xd484b5c019fd8eb682...</a>	Mint	59 secs ago	0x000000000000000000...
<a href="#">0x7b5a194a81f2f3ac4e...</a>	Mint	2 mins ago	0x000000000000000000...
<a href="#">0xf95e3dac18cb4eab9e...</a>	Mint	2 mins ago	0x000000000000000000...
<a href="#">0x5a6323652a4697f384...</a>	Mint	2 mins ago	0x000000000000000000...
<a href="#">0xde2eae063174f95e2a...</a>	Mint	3 mins ago	0x000000000000000000...
<a href="#">0x26965eb6f462b8948b...</a>	Mint	7 mins ago	0x000000000000000000...
<a href="#">0x1ef98bd28a034ee28c...</a>	Mint	13 mins ago	0x000000000000000000...

Rinkeby Test Network

Account 1

0xCaD...8d19

Not connected

18.5606 ETH

Buy

Send

Swap

Assets

Activity

18.5606 ETH

10 DIV

testnets.opensea.io/collection/divtoken

OpenSea

Search items, collections, and accounts

Explore

Stats

Resources

Create

10

items

1

owner

---

floor price

0.00

volume traded

Welcome to the home of DIVToken on OpenSea. Discover the best items in this collection.

Items

Activity

Filter

Search

Single Items

Price: Low to High

testnets.opensea.io/assets/0xa88d84aeb054bd80043f218108e83424537b221e/2/sell

OpenSea

Search items, collections, and accounts

Explore

Stats

<

DIVToken

Luxury Home

\$

Fixed Price

Price

ETH

1

Duration

1 month

More options

Fees

Service Fee

Complete your listing

DIVToken

Luxury Home

Quantity: 1

Price

1

\$405.65 USD

1 Initialize your wallet

To get set up for selling on OpenSea for the first time, you must initialize your wallet, which requires a one-time gas fee.

Waiting for initialization...

2 Approve this item for sale

3 Confirm 1 ETH listing

Account 1

0xf57...f317

New address detected! Click here to add to your address book.

DETAILS

DATA

HEX

Estimated gas fee

0.00077532

0.000775 ETH

Site suggested

Likely in < 30 seconds

Max fee: 0.00077532 ETH

Total

0.00077532

0.00077532 ETH

Amount + gas fee

Max amount: 0.00077532 ETH

Reject

Confirm

Your item is now listed for sale



#### Enable email notifications



Enter your email address in your account settings so we can let you know when your listing sells or receives offers.

[Manage account settings](#)

#### Share your listing




[View Item](#)


Rinkeby Test Network


Connected


**Account 1**  
0xCaD...8d19



**18.56 ETH**


Buy

Send


Swap

Assets

Activity

Set Approval For All  
Jan 12 · testnets.opensea.io

-0 ETH  
-0 ETH

Register Proxy  
Jan 12 · testnets.opensea.io

-0 ETH  
-0 ETH

[Cancel listing](#)

[Lower price](#)




DIVToken

### Luxury Home

Owned by you

 Sale ends February 12, 2022 at 4:07pm IST

Current price  
 1 (\$405.65)

 Buy now

 Description

 Price History



## Complete checkout



Item

Subtotal



DIVToken

Luxury Home

1

\$405.65

Total

1

\$405.65



By checking this box, I agree to OpenSea's [Terms of Service](#)

Confirm checkout

offerings

All Time



testnets.opensea.io/assets/0xa88d84aeb054bd80043f218108e83424537b221e/2


Search items, collections, and accounts

ExploreStats

←

Complete checkout

×

Item	Subtotal
<div><div></div><div>DIVToken Luxury Home</div></div>	<div>1</div> <div>\$405.65</div>
Total	<div>1</div> <div>\$405.65</div>

☒ By checking this box, I agree to OpenSea's [Terms of Service](#)

Rinkeby Test Network

Account 2

→

0x520...Bld9

New address detected! Click here to add to your address book.

https://testnets.opensea.io

ATOMIC MATCH\_

1

DETAILSDATAHEX

EDIT

Estimated gas fee

0.00052082

0.000521 ETH

Site suggested

Likely in < 30 seconds

Max fee: 0.00052082 ETH

Total

1.00052082


1.00052082 ETH

## Your purchase has processed!



Woot! You just purchased Luxury Home. It's been confirmed on the blockchain!



Status	Transaction Hash
 Complete	<a href="#">0x4831...0341</a>

SHARE





Rinkeby Test Network



Not connected

Account 1

0xCaD...8d19



19.535 ETH



Buy



Send



Swap

Assets

Activity



19.535 ETH



9 DIV

Don't see your token?





Rinkeby Test Network



○ Not connected

Account 2

0xe3D...9d3b



17.7496 ETH



Buy



Send



Swap

Assets

Activity



17.7496 ETH



1 DIV


Don't see your token?

## Your purchase has processed!



Woot! You just purchased Cozy family home. It's been confirmed on the blockchain!



Status	Transaction Hash
 Complete	<a href="#">0x759f...8618</a>



SHARE




## Your purchase has processed!



Woot! You just purchased Manufacturing Warehouse. It's been confirmed on the blockchain!



Status	Transaction Hash
 Complete	<a href="#">0x7895...cb2d</a>



SHARE




## Your purchase has processed!



Woot! You just purchased Small Condo. It's been confirmed on the blockchain!



Status	Transaction Hash
 Complete	<a href="#">0x6244...a03f</a>



SHARE



## Your purchase has processed!



Woot! You just purchased Floating House. It's been confirmed on the blockchain!



Status	Transaction Hash
 Complete	<a href="#">0x4b75...a061</a>

SHARE



testnets.opensea.io/collection/divtoken

Search items, collections, and accounts

Explore

DIVToken

10  
items

2  
owners

1  
floor price

5.0  
volume traded

Welcome to the home of DIVToken on OpenSea. Discover the best items in this co

Rinkeby Test Network

Account 2

0xe3D...9d3b

13.7483 ETH

Buy

Send

Swap

Assets

Activity

13.7483 ETH

5 DIV

testnets.opensea.io/collection/divtoken

Search items, collections, and accounts

Explore

DIVToken

10  
items

2  
owners

1  
floor price

5.0  
volume traded

Rinkeby Test Network

Account 1

0xCaD...8d19

23.435 ETH

Buy

Send

Swap

Assets

Activity

23.435 ETH

5 DIV