

# Assure DeFi<sup>®</sup>

THE VERIFICATION **GOLD STANDARD**



## Security Assessment

### Narinu

Date: 16/06/2024

Audit Status: PASS

Audit Edition: Advanced



ASSURE DEFI<sup>®</sup>  
THE VERIFICATION **GOLD STANDARD**

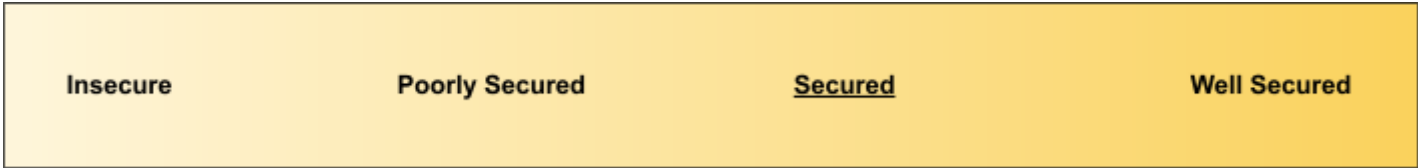
# Risk Analysis

## Vulnerability summary

| Classification  | Description  |
|---|--|
|  High            | High-level vulnerabilities can result in the loss of assets or manipulation of data.   |
|  Medium          | Medium-level vulnerabilities can be challenging to exploit, but they still have a considerable impact on smart contract execution, such as allowing public access to critical functions. |
|  Low           | Low-level vulnerabilities are primarily associated with outdated or unused code snippets that generally do not significantly impact execution, sometimes they can be ignored.            |
|  Informational | Informational vulnerabilities, code style violations, and informational statements do not affect smart contract execution and can typically be disregarded.                              |

## Executive Summary

According to the Assure assessment, the Customer's smart contract is **Secured**.



# Scope

## Target Code And Revision

For this audit, we performed research, investigation, and review of the Narinu contracts followed by issue reporting, along with mitigation and remediation instructions outlined in this report.

## Target Code And Revision

|                          |   |
|--------------------------|---|
| <b>Project</b>           | Assure  |
| <b>Language</b>          | Solidity  |
| <b>Codebase</b>          | <a href="https://etherscan.io/address/0xfe07475d1c90ed240dcf6f5467f14036b0f29b44#code">https://etherscan.io/address/0xfe07475d1c90ed240dcf6f5467f14036b0f29b44#code</a> |
| <b>Audit Methodology</b> | Static, Manual  |



# Attacks made to the contract

In order to check for the security of the contract, we tested several attacks in order to make sure that the contract is secure and follows best practices.

| Category                        | Item   |
|---------------------------------|--|
| Code review & Functional Review | <ul style="list-style-type: none"><li>• Compiler warnings.</li><li>• Race conditions and Reentrancy.<br/>Cross-function race conditions.</li><li>• Possible delays in data delivery.</li><li>• Oracle calls.</li><li>• Front running.</li><li>• Timestamp dependence.</li><li>• Integer Overflow and Underflow.</li><li>• DoS with Revert.</li><li>• DoS with block gas limit.</li><li>• Methods execution permissions.</li><li>• Economy model.</li><li>• Private user data leaks.</li><li>• Malicious Event log.</li><li>• Scoping and Declarations.</li><li>• Uninitialized storage pointers.</li><li>• Arithmetic accuracy.</li><li>• Design Logic.</li><li>• Cross-function race conditions.</li><li>• Safe Zeppelin module.</li><li>• Fallback function security.</li><li>• Overpowered functions / Owner privileges</li></ul> |

# AUDIT OVERVIEW



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No high severity issues were found.



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No medium severity issues were found.



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## **1. Fix for Zero Amount Error in claimExtraETHFunds() Function**

**Function:** claimExtraETHFunds()

**Contract:** Token.sol

**Issue:** It's possible to set a zero amount when claiming ETH from the token contract.

**Fix:** Change the require condition from `_amount >= 0`, "Cannot send 0 amount" to `_amount > 0`, "Cannot send 0 amount".



---

No Informational severity issues were found.

# Testing coverage

During the testing phase, custom use cases were written to cover all the logic of contracts. *\*Check "Annexes" to see the testing code.*

## Narinu token contract tests:

```
tests/test_token.py::test_whitelist_user RUNNING
Transaction sent: 0x5547db6d602ba33595929a9a53e6e78aa818afc4393be739541208f4dc897027
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
WETH9.constructor confirmed Block: 1 Gas used: 476546 (3.97%)
WETH9 deployed at: 0x3194c80C3dbcd3E11a07892e7bA5c3394048Cc87

Transaction sent: 0x7bae2624e4397b7e8bf657828e1e07435f469ad759872b75091dcfb92e64b42d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
UniswapV2Factory.constructor confirmed Block: 2 Gas used: 2412730 (20.11%)
UniswapV2Factory deployed at: 0x602C71e4DAC47a042Ee7f46E0aee17F94A3bA0B6

Transaction sent: 0xfe6097b03e1a1a43331440c45f0d3c463a215b9ce3bb912ceff4521bea2b5fc7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
UniswapV2Router02.constructor confirmed Block: 3 Gas used: 3895430 (32.46%)
UniswapV2Router02 deployed at: 0xE7eD6747FaC5360f88a2EFC03E00d25789F69291

Transaction sent: 0xb30642022daa617406d51a1b4059c130471af1a603551342f1b65e68a6a9c0a3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 3
Token.constructor confirmed Block: 4 Gas used: 3047984 (25.40%)
Token deployed at: 0x6951b58d815043E3F842c1b026b0Fa888Cc2D085

Transaction sent: 0x56be935662fe1929c7da87045614d8af95531edc9b8a76b23c16b72b27d8ed22
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
Token.whitelistUser confirmed (Ownable: caller is not the owner) Block: 5 Gas used: 23011 (0.19%)

Transaction sent: 0xbaffa478b61ae7b2271096180ace852c182844cf58b7131e077efeeffc1ef2007
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
Token.whitelistUser confirmed (Cannot set zero address) Block: 6 Gas used: 22818 (0.19%)

Transaction sent: 0xf953d37522912f8837ce910b6c90f2738ae732c33b1ed1f8fffb0ff8d640b48b
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 5
Token.whitelistUser confirmed Block: 7 Gas used: 45399 (0.38%)

tests/test_token.py::test_whitelist_user PASSED
```

```
tests/test_token.py::test_update_slippage RUNNING
Transaction sent: 0x56c2541f92aa306f1209baae3a840ab2c1dffc89c2598d908a5bfac69cac914d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 6
WETH9.constructor confirmed Block: 8 Gas used: 476546 (3.97%)
WETH9 deployed at: 0x9E4c14403d7d9A8A782044E86a93CAE09D7B2ac9

Transaction sent: 0xa631e8c29bda874e2ef287747e0dbfa547eebc9b053b4c979fc4a8e4d57ae00e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 7
UniswapV2Factory.constructor confirmed Block: 9 Gas used: 2412730 (20.11%)
UniswapV2Factory deployed at: 0xcCB53c9429d32594F404d01f9e9E65ED1DCda809

Transaction sent: 0x821ffffde57cb491817defalb492304e3c45333d9e2fa1312b7e048819f82c405
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 8
UniswapV2Router02.constructor confirmed Block: 10 Gas used: 3895430 (32.46%)
UniswapV2Router02 deployed at: 0x420b1099B9eF5baba6D92029594eF45E19A04A4A

Transaction sent: 0x2dd0a9a72a76c0a2bb6b8414e227c94745d0af94a8a2d887b87ab3ee708f24cd
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 9
Token.constructor confirmed Block: 11 Gas used: 3047996 (25.40%)
Token deployed at: 0xa3853d0Cd2E3fC28e8E130288F2a808d5EE37472

Transaction sent: 0x9198ef0b02aaf39c01fd9df7acf20f3e243abc0faa52f4e7e14ac0c7eab24aa5
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
Token.updateSlippage confirmed (Ownable: caller is not the owner) Block: 12 Gas used: 22481 (0.19%)

Transaction sent: 0x8f365ed83a4e892cd55f8c2f1f05c7f478f86aed4c1577ff382516c9c91ab5d2
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 10
Token.updateSlippage confirmed (Cannot set more than allowed) Block: 13 Gas used: 22514 (0.19%)

Transaction sent: 0x6d4e3c47d74967acae5d2a46a0889d9a9966ef72a46c1f244f6085049dalbcbce
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 11
Token.updateSlippage confirmed (Slippage must be greater than 0) Block: 14 Gas used: 22524 (0.19%)

Transaction sent: 0x8ef9ebeda86df12ecd6f2494e31f9bc3ffdd17f9a6e6e5ea89386f1b41fd7f3b4
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 12
Token.updateSlippage confirmed Block: 15 Gas used: 24389 (0.20%)

tests/test_token.py::test_update_slippage PASSED
```

```
tests/test_token.py::test_update_rcv_addr RUNNING
Transaction sent: 0x86ccaad7541d8fa6d70fa9cd5ddb3e65798dfefa273572e714cdabe980c01ba
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 13
WETH9.constructor confirmed Block: 16 Gas used: 476546 (3.97%)
WETH9 deployed at: 0xe692Cf21812e082717C4bF647F9768Fa58861c8b

Transaction sent: 0xe4579df8e59b85ec97990dbc23ebf018d9a82ee393cada37bec775da2af70ae1
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 14
UniswapV2Factory.constructor confirmed Block: 17 Gas used: 2412730 (20.11%)
UniswapV2Factory deployed at: 0xe65A7a341978d59d40d30FC23F5014FACB4f575A

Transaction sent: 0x75b6e25066fc484a87b63b4f3e737709de7f948e3ffd358538a867e80cae95a7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 15
UniswapV2Router02.constructor confirmed Block: 18 Gas used: 3895430 (32.46%)
UniswapV2Router02 deployed at: 0x303758532345801c88c2AD12541b09E9Aa53A93d

Transaction sent: 0xb91eca6cca23455115aach33591513fd53b26dc1075dfb38a10c9c2bbcea4d7c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 16
Token.constructor confirmed Block: 19 Gas used: 3047996 (25.40%)
Token deployed at: 0x26f153358B1C6a4C08660eDd694a0555A9F1cce3

Transaction sent: 0xb4adb1c15a0119031be3c7af4db4ca6c8ad0e5b5a186f4b7ad38782f13295bd56
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
Token.updateReceiverAddress confirmed (Ownable: caller is not the owner) Block: 20 Gas used: 22760 (0.19%)

Transaction sent: 0x45642bf9c67930c6d5406eccd6248111511e43c51b2e2789be7041c4d36b6ef
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 17
Token.updateReceiverAddress confirmed (Cannot set zero address) Block: 21 Gas used: 22567 (0.19%)

Transaction sent: 0xddb0d36631b1e447f0cdea29f5e38f9d74ed6ddce69dc4212caa97ea7d9354fc
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 18
Token.updateReceiverAddress confirmed Block: 22 Gas used: 29702 (0.25%)

tests/test_token.py::test_update_rcv_addr PASSED
```

```
tests/test_token.py::test_update_tax_perc RUNNING
Transaction sent: 0x8eeef26a875d0b720aad785a8bdcd281321c69cc6670524944e71d22efdb675c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 19
WETH9.constructor confirmed Block: 23 Gas used: 476546 (3.97%)
WETH9 deployed at: 0x0ae02e4fe488952cFB8c95177154D188647a0146

Transaction sent: 0x31d9df08dbdd497871c1c02e3700ba776af151abee48d1ed13d95fab7b718a
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 20
UniswapV2Factory.constructor confirmed Block: 24 Gas used: 2412730 (20.11%)
UniswapV2Factory deployed at: 0xdCF93F11ef216cEC9C07fd31d0801c9b2b39Afb4

Transaction sent: 0x8f830ed8f07da52412cbe3a0112e21a440ac8eee3d6cdadc45bb88df9e5df2de
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 21
UniswapV2Router02.constructor confirmed Block: 25 Gas used: 3895430 (32.46%)
UniswapV2Router02 deployed at: 0x8cb61491F1859f53438918F1A5aFCA542Af9D397

Transaction sent: 0x3c2515ac1749668a4cbf2e1e0fee36f39b6a78aa8f89b6af68bf4ed4d3fe2b8e
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 22
Token.constructor confirmed Block: 26 Gas used: 3047996 (25.40%)
Token deployed at: 0x022363efee93190f82b52fCD62B70bcb920eF658

Transaction sent: 0x888a6ee75219747ab714fb2a5bfff2b712603227528357ae8c7f0e62c9c65d23
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 3
Token.updateTaxPercentage confirmed (Ownable: caller is not the owner) Block: 27 Gas used: 22480 (0.19%)

Transaction sent: 0xd6c7008680dd49478a72dcabd9d1737b7284026f3ed97a8b0852d7dcda5020a4
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 23
Token.updateTaxPercentage confirmed (Cannot set more than allowed) Block: 28 Gas used: 22524 (0.19%)

Transaction sent: 0x6487d0f1a5c4be57dcb4c6d9221549cd86e0f125d0c6ab8f46e42d8f5e9f49de
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 24
Token.updateTaxPercentage confirmed Block: 29 Gas used: 28565 (0.24%)

tests/test_token.py::test_update_tax_perc PASSED
```

```
tests/test_token.py::test_claim_extra_eth RUNNING
Transaction sent: 0xb4f0eb925f6414d222fc71632977401ba96cb12dfe72f3ba33392f201d77f49d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 25
WETH9.constructor confirmed Block: 30 Gas used: 476546 (3.97%)
WETH9 deployed at: 0x654f70d8442EA18904FA1AD79114f7250F7E9336

Transaction sent: 0x2a99cf2a63cb15631203dc34b8210fe6aaddfc4f63edb252c7fc3b099883c125
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 26
UniswapV2Factory.constructor confirmed Block: 31 Gas used: 2412730 (20.11%)
UniswapV2Factory deployed at: 0xADe061D42dE86f9058386D1D0d739d20C7eAfC43

Transaction sent: 0xe8458668f2772f232118d6c4ea5a841852067cb0ce919a8a8a28d600ca006ace
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 27
UniswapV2Router02.constructor confirmed Block: 32 Gas used: 3895430 (32.46%)
UniswapV2Router02 deployed at: 0x832698Daec363C9A7aB036C224Af5B21280b3AC6

Transaction sent: 0x2a416095c3858160d2beaa9426581c7d642d80e0d3228dcd54126c0f27a97f08
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 28
Token.constructor confirmed Block: 33 Gas used: 3047996 (25.40%)
Token deployed at: 0xA95916C3D979400C7443961330b3092510a2298a

Transaction sent: 0x449b826db4d3e70e6e6dcb40dde8d55dd877747640287ca3f15ca893bd7da3a0
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 4
Token.claimExtraETHFunds confirmed (Ownable: caller is not the owner) Block: 34 Gas used: 22992 (0.19%)

Transaction sent: 0xde49013e841f9c984b615f4a7908f35310b687ba65c77e878b421b49f94b9886
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 29
Token.claimExtraETHFunds confirmed (Transfer failed) Block: 35 Gas used: 30538 (0.25%)

Transaction sent: 0x1a444c4aace780d1524e92e8e1c5eab76d36b99b9b494a3540acd6c63846fff9
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 30
Token.claimExtraETHFunds confirmed Block: 37 Gas used: 31780 (0.26%)

tests/test_token.py::test_claim_extra_eth PASSED
```



```

tests/test_token.py::test_transfer RUNNING
Transaction sent: 0x9c926fa0967078f77d561b73c26da6fee2b96787a4657080270082726385932c
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 31
WETH9.constructor confirmed Block: 38 Gas used: 476546 (3.97%)
WETH9 deployed at: 0x82c83b7f88aef2e099d4869d547b6ED28e69C8df

Transaction sent: 0xd7f058d8a133c1d4aac27e15eeb0c53821c41b809c5625189bfe19399e894959
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 32
UniswapV2Factory.constructor confirmed Block: 39 Gas used: 2412730 (20.11%)
UniswapV2Factory deployed at: 0x724Ca58E1e6e648F81E15d7Eec0fe1E5f581c7b0

Transaction sent: 0xb520f3621dd6c078e7d655695bf329616f2f1b437e8c3c2d766b32430d766bdf
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 33
UniswapV2Router02.constructor confirmed Block: 40 Gas used: 3895430 (32.46%)
UniswapV2Router02 deployed at: 0x34b97ffa01dc0DC959c5f1176273D0de3be914C1

Transaction sent: 0xef9a205e57be84d524becc302b3d6204324b881305f18b06a1082c8837e15e2d
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 34
UniswapV2AddLiquidity.constructor confirmed Block: 41 Gas used: 449853 (3.75%)
UniswapV2AddLiquidity deployed at: 0xc830Ad2FD0fCC2f368fE5DeC93b1Dc72ecABb3691

Transaction sent: 0x275af38fb0d72c524404deb4d1d0eea69acd78d16e7e8e7750ec548641694369
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 35
Token.constructor confirmed Block: 42 Gas used: 3048008 (25.40%)
Token deployed at: 0x8c8eCcb89650c3E796e803CB009BF9b898CB359

Transaction sent: 0xac4c7acd7b274c8095caf58aldbb93869020f13e83efd2d3ac5e383689f397ec
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 36
Token.transfer confirmed (Liquidity not provided) Block: 43 Gas used: 24985 (0.21%)

Transaction sent: 0x04346220eb21df549e24b59654ab47c9ff9c71409f2ef0fd26e9c6f726e29028
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 37
Token.whitelistUser confirmed Block: 44 Gas used: 45399 (0.38%)

Transaction sent: 0x929e1eb3b6fa059f90938f5e5c749f018766971709c7c46ccf79f2c09fd7b192
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 38
WETH9.deposit confirmed Block: 45 Gas used: 43706 (0.36%)

Transaction sent: 0x2aaebb77ec2e491c1c80c3786cef04d95b00b1da30dfb1dbba1a25bb259cfd79
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 39
WETH9.approve confirmed Block: 46 Gas used: 43998 (0.37%)

Transaction sent: 0xc36beb165818bf99f56e0666d6eca51d8e0586326a46b7693b6d5f9bca361818
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 40
Token.approve confirmed Block: 47 Gas used: 44212 (0.37%)

Transaction sent: 0xlac8b79aae7983521d6ae2ce0c2f8c52c3ab2de4771c5f3e238a78482ffbaabb
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 41
UniswapV2AddLiquidity.addLiquidity confirmed Block: 48 Gas used: 2314030 (19.28%)

Transaction sent: 0x71e4cbd7be0141e99646c47fab0b03513824fe204f59044c6c9c805d9eeae152
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 42
Token.transfer confirmed Block: 49 Gas used: 209483 (1.75%)

Transaction sent: 0x5e3c71353790d7258d48bdf5b3a2b65b5bd9b7b5220ae94c3b17eab5f10a16c7
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 43
Token.transfer confirmed Block: 50 Gas used: 194471 (1.62%)

Transaction sent: 0xdf96887d26959646f0b77d2dbde1717ff090959751c34124a297a9dd940490c3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 0
Token.transfer confirmed Block: 51 Gas used: 175515 (1.46%)

Transaction sent: 0x497e7d3b36e3091249c463be9306de88193852fb293bf4230b042681c84889a3
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 1
Token.transfer confirmed Block: 53 Gas used: 217629 (1.81%)

```

```

Transaction sent: 0xd8c143cbdc0887a7f7418962418b72cd84ae2aa9562d900d88a7fb53a38dee01
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 44
Token.whitelistUser confirmed Block: 54 Gas used: 45387 (0.38%)

Transaction sent: 0x0b353819537f1dc01d0956dac94577051c26c4ae951f5b70aae92e770d44a154
Gas price: 0.0 gwei Gas limit: 12000000 Nonce: 2
Token.transfer confirmed Block: 55 Gas used: 39928 (0.33%)

```

```

tests/test_token.py::test_transfer PASSED

```

# Annexes

Testing code:

Testing\_Narinu\_token:

```
from brownie import (
    reverts, accounts
)

from scripts.helpful_scripts import (
    ZERO_ADDRESS,
    DAY_TIMESTAMP,
    get_account,
    increase_timestamp
)

from scripts.deploy import (
    deploy_weth,
    deploy_factory,
    deploy_router,
    deploy_liquidity,
    deploy_token
)

def test_whitelist_user(only_Local):
    # Arrange

    owner = get_account(0)

    other = get_account(1)

    tax_recv = get_account(2)
```

```
weth = deploy_weth(owner)

factory = deploy_factory(owner, owner)

router = deploy_router(owner, factory.address, weth.address)

token = deploy_token(owner, 100, tax_recv, router.address)
```

```
with reverts("Ownable: caller is not the owner"):

    token.whitelistUser(other, True, {"from": other})

with reverts("Cannot set zero address"):

    token.whitelistUser(ZERO_ADDRESS, True, {"from": owner})

token.whitelistUser(other, True, {"from": owner})
```

```
def test_update_slippage(only_local):
```

```
    # Arrange
```

```
    owner = get_account(0)

    other = get_account(1)

    tax_recv = get_account(2)
```

```
weth = deploy_weth(owner)

factory = deploy_factory(owner, owner)

router = deploy_router(owner, factory.address, weth.address)

token = deploy_token(owner, 100, tax_recv, router.address)
```

```
with reverts("Ownable: caller is not the owner"):

    token.updateSlippage(200, {"from": other})

with reverts("Cannot set more than allowed"):

    token.updateSlippage(600, {"from": owner})

with reverts("Slippage must be greater than 0"):
```

```

        token.updateSlippage(0, {"from": owner})

        token.updateSlippage(200, {"from": owner})

def test_update_rcv_addr(only_Local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    tax_rcv = get_account(2)

    new_tax_rcv = get_account(3)

    weth = deploy_weth(owner)

    factory = deploy_factory(owner, owner)

    router = deploy_router(owner, factory.address, weth.address)

    token = deploy_token(owner, 100, tax_rcv, router.address)

    with reverts("Ownable: caller is not the owner"):

        token.updateReceiverAddress(new_tax_rcv, {"from": other})

    with reverts("Cannot set zero address"):

        token.updateReceiverAddress(ZERO_ADDRESS, {"from": owner})

    token.updateReceiverAddress(new_tax_rcv, {"from": owner})

def test_update_tax_perc(only_Local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    tax_rcv = get_account(2)

    weth = deploy_weth(owner)

```



```

factory = deploy_factory(owner, owner)

router = deploy_router(owner, factory.address, weth.address)

token = deploy_token(owner, 100, tax_recv, router.address)


with reverts("Ownable: caller is not the owner"):
    token.updateTaxPercentage(200, {"from": other})

with reverts("Cannot set more than allowed"):
    token.updateTaxPercentage(600, {"from": owner})

token.updateTaxPercentage(200, {"from": owner})


def test_claim_extra_eth(only_local):
    # Arrange

    owner = get_account(0)
    other = get_account(1)
    tax_recv = get_account(2)

    weth = deploy_weth(owner)
    factory = deploy_factory(owner, owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_token(owner, 100, tax_recv, router.address)

    with reverts("Ownable: caller is not the owner"):
        token.claimExtraETHFunds(1e18, other, {"from": other})

    # with reverts("Cannot send 0 amount"):
    #     token.claimExtraETHFunds(0, other, {"from": owner})

    with reverts("Transfer failed"):
        token.claimExtraETHFunds(1e18, other, {"from": owner})

```

```
other.transfer(token.address, "1 ether")

tx = token.claimExtraETHFunds(1e18, other, {"from": owner})

assert tx.events['ClaimExtraETHFunds'][0]['_amount'] == 1e18

assert tx.events['ClaimExtraETHFunds'][0]['_to'] == other
```

```
def test_transfer(only_local):
```

```
    # Arrange
```

```
    owner = get_account(0)
```

```
    other = get_account(1)
```

```
    extra = get_account(2)
```

```
    tax_recv = get_account(3)
```

```
    weth = deploy_weth(owner)
```

```
    factory = deploy_factory(owner, owner)
```

```
    router = deploy_router(owner, factory.address, weth.address)
```

```
    liquidity = deploy_liquidity(owner, factory.address, router.address)
```

```
    token = deploy_token(owner, 100, tax_recv, router.address)
```

```
    with reverts("Liquidity not provided"):
```

```
        token.transfer(other, 10e18, {"from": owner})
```

```
    # Add Liquidity
```

```
    token.whitelistUser(liquidity.address, True, {"from": owner})
```

```
    weth.deposit({"from": owner, "value": 10e18})
```

```
    weth.approve(liquidity.address, 100e18, {"from": owner})
```

```
    token.approve(liquidity.address, 100e18, {"from": owner})
```

```
    liquidity.addLiquidity(token.address, weth.address, 1000e6, 1e18, {"from": owner})
```

```
# transfers

pair_addr = token.pairAddress()

token.transfer(other, 1e18, {"from": owner})

assert token.balanceOf(other) == 0.99e18


token.transfer(extra, 5e18, {"from": owner})

assert token.balanceOf(extra) == 4.95e18


# early buy = 20% fee

tx = token.transfer(pair_addr, 1e18, {"from": extra})

assert tx.events['Transfer'][3]['from'] == extra

assert tx.events['Transfer'][3]['to'] == pair_addr

assert tx.events['Transfer'][3]['value'] == 0.8e18


increase_timestamp(1200)


# after 30 minutes = 10% fee

tx = token.transfer(pair_addr, 1e18, {"from": extra})

assert tx.events['Transfer'][3]['from'] == extra

assert tx.events['Transfer'][3]['to'] == pair_addr

assert tx.events['Transfer'][3]['value'] == 0.9e18


# no fee

token.whitelistUser(extra, True, {"from": owner})

tx = token.transfer(other, 1e18, {"from": extra})

assert tx.events['Transfer'][0]['from'] == extra

assert tx.events['Transfer'][0]['to'] == other
```

```
assert tx.events['Transfer'][0]['value'] == 1e18
```



# Technical Findings Summary

## Findings

| Vulnerability Level                 | Total | Pending | Not Apply | Acknowledged | Partially Fixed | Fixed |
|-------------------------------------|-------|---------|-----------|--------------|-----------------|-------|
| <div><div></div>High</div>          | 0     |         |           |              |                 |       |
| <div><div></div>Medium</div>        | 0     |         |           |              |                 |       |
| <div><div></div>Low</div>           | 1     |         |           |              |                 |       |
| <div><div></div>Informational</div> | 0     |         |           |              |                 |       |

# Assessment Results

## Score Results

| Review              | Score         |
|---------------------|---------------|
| <b>Global Score</b> | <b>85/100</b> |
| Assure KYC          | Pending       |
| Audit Score         | 85/100        |

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project must pass and provide all the data needed for the assessment. Our Passing Score has been changed to 84 Points for a higher standard, if a project does not attain 85% is an automatic failure. Read our notes and final assessment below. The Global Score is a combination of the evaluations obtained between having or not having KYC and the type of contract audited together with its manual audit.

## Audit PASS

Following our comprehensive security audit of the token contract for Narinu project, we inform you that the project has met the necessary security standards.

# Disclaimer

Assure Defi has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocating for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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