

Assure DeFi®

THE VERIFICATION **GOLD STANDARD**



Security Assessment

NOVA

Date: 21/08/2025

Audit Status: PASS

Audit Edition: Code audit



Risk Analysis

Vulnerability summary

Classification	Description
● High	Vulnerabilities that lead to direct compromise of critical assets, large-scale data exposure, unauthorized fund transfers, or full system takeover.
● Medium	Flaws that weaken security posture or privacy but do not immediately enable catastrophic failures.
● Low	Issues that have minimal direct impact, often involving best-practice deviations or potential future risks.
● Informational	Observations, style concerns, or suggestions that do not constitute vulnerabilities but may improve security hygiene.

Scope

Target Code And Revision

Project	Assure
Language	Solidity
Codebase	https://etherscan.io/address/0x79fe521199697c9cf94d16d5d49277c933ccc38b#code
Audit Methodology	Static, Manual

Detailed Technical Report



HIGH

No high issues were found.



MEDIUM

1. Fee cap misconfiguration (live 29% vs. stated 15% cap)

Issue: Constructor sets buyTotalFees = sellTotalFees = 29, while the update functions enforce $\leq 15\%$ only when called. If the owner never calls these updaters, the token can run at 29% tax, diverging from the supposed cap.

Remediation: Enforce the cap at activation: add `require(buyTotalFees <= 15 && sellTotalFees <= 15)` in `enableTrading()`. Also initialize constructor fees within the cap to match stated policy.

2. Owner-controlled sell DoS via operationsAddress ETH send

Issue: In `swapBack()`, the contract forwards all ETH to `operationsAddress` and reverts on failure: `require(success, "Transfer to operations address failed")`. The owner can set `operationsAddress` to a contract that reverts on `receive()`, making every sell that triggers `swapBack()` revert (classic honeypot behavior). The owner can also lower `swapTokensAtAmount` to trigger swaps more frequently. This freezes sellers once fees accrue.

Remediation: Make the payout non-blocking (do not revert on failed send, record credit for a later pull), or restrict `operationsAddress` to an EOA/multisig and gate changes via a timelock. Add an explicit `setSwapEnabled(bool)` emergency switch to disable swapping without bricking trades. Or renounce ownership.



1. Zero slippage protection on swaps (MEV/sandwich exposure)

Issue: swapTokensForEth uses amountOutMin = 0, enabling unbounded price impact and MEV extraction during swapBack(), especially when dumping up to $15 * \text{swapTokensAtAmount}$. This harms price and reduces ETH received for operations.

Remediation: Compute a conservative amountOutMin from getAmountsOut() (for example with a 10–20% tolerance) and/or limit per-swap size to a small fraction of pool reserves.

2. recoverETH ignores transfer failure

Issue: recoverETH() does not check the success flag. If the owner is a contract whose receive() reverts, ETH can remain stuck while the function appears to succeed.

Remediation: require(success, "ETH transfer failed") and/or allow specifying a recipient and support a pull pattern to avoid forced sends.



No informational 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.

```
tests/test_nova.py .....  
=====  
  
contract: NOVA - 74.4%  
NOVA.airdropToWallets - 100.0%  
NOVA.enableTrading - 100.0%  
NOVA.setOperationsAddress - 100.0%  
NOVA.setSwapRestrictions - 100.0%  
NOVA.updateBuyTax - 100.0%  
NOVA.updateSellTax - 100.0%  
NOVA.updateSwapTokensAtAmount - 100.0%  
NOVA.transferForeignToken - 91.7%  
NOVA.excludeFromMaxTransaction - 87.5%  
NOVA._transfer - 84.6%  
ERC20._transfer - 83.3%  
ERC20._approve - 75.0%  
ERC20.transferFrom - 75.0%  
Ownable.renounceOwnership - 75.0%  
Ownable.transferOwnership - 75.0%  
NOVA.prep - 61.6%  
ERC20.decreaseAllowance - 0.0%
```

```

tests/test_nova.py::test_update_buy_tax RUNNING
Transaction sent: 0xd1dfc5c27ae030999573587ba69e89ccb13d2d51ab45b7852b0b86ed561ce0a4
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
    UniswapV2Factory.constructor confirmed  Block: 1  Gas used: 2412742 (20.11%)
    UniswapV2Factory deployed at: 0x3194cBDC3dbc3E11a07892e7bA5c3394048Cc87

Transaction sent: 0x22dbeef908eefdc9f9ae34638cfe610a0d0abfee8ef185b92d3542bdd3e674e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 1
    WETH9.constructor confirmed  Block: 2  Gas used: 476546 (3.97%)
    WETH9 deployed at: 0x602C71e4DAC47a042Ee7f46E0aee17F94A3bA0B6

Transaction sent: 0x147be52cf3f635c2b6f3db47919880d83f491b5605033a039f54f2a8f170aa10
  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: 0x6278327af6d7b6fa839c99c56709eb250451edc4f055d3c27eaef4f6423eccd1
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 3
    NOVA.constructor confirmed  Block: 4  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0x6951b5Bd815043E3F842c1b026b0Fa888Cc2DD85

Transaction sent: 0x5065c826347825b0c83797af5ddc4bal3365971cecf6b14e307a7be74e8e4d24
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
    NOVA.updateBuyTax confirmed (Ownable: caller is not the owner)  Block: 5  Gas used: 22546 (0.19%)

Transaction sent: 0xe6f60fbb7576abde71673ca3d86ddd9394231b18c7ad39d236979f3ca21fab58
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 4
    NOVA.updateBuyTax confirmed (Must keep fees at 15% or less)  Block: 6  Gas used: 32569 (0.27%)

Transaction sent: 0x14ceb2f59e4a65aed7c75e0caf1d1d3c4a7785f7c1643c426eae44fd5elec16
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 5
    NOVA.updateBuyTax confirmed  Block: 7  Gas used: 32464 (0.27%)

tests/test_nova.py::test_update_buy_tax PASSED
tests/test_nova.py::test_update_sell_tax RUNNING
Transaction sent: 0xd5e44da4cb581c4e13dde71e9ab47ca470638a4fbb7f2a5468ef2b2b17ce9780
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 6
    UniswapV2Factory.constructor confirmed  Block: 8  Gas used: 2412742 (20.11%)
    UniswapV2Factory deployed at: 0x9E4c14403d7d9A8A782044E86a93CAE09D7B2ac9

Transaction sent: 0x1426e860575c84ee6fb330e048858afcdc4477d960f5ff278ca49dff570cf03e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 7
    WETH9.constructor confirmed  Block: 9  Gas used: 476546 (3.97%)
    WETH9 deployed at: 0xcCB53c9429d32594F404d01fbe9E65ED1DCda8D9

Transaction sent: 0x68f31bb0b5233223aabf26ebe4f8edba94d0f308d296c1cbb38758cdf6eb4da6
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 8
    UniswapV2Router02.constructor confirmed  Block: 10  Gas used: 3895430 (32.46%)
    UniswapV2Router02 deployed at: 0x420b1099B9eF5bab6D92029594eF45E19A04A4A

Transaction sent: 0xaab9778fa4c5e70676e2b6b803dae04ac01311866c07f0633dbe4e42e25db329
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 9
    NOVA.constructor confirmed  Block: 11  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0xa3B53dDCd2E3fC28e8E130288F2aBD8d5EE37472

Transaction sent: 0xfe740e8e3a77abee342633b67d758d4d3e9569cad2a47552027e0237edd35e9
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 1
    NOVA.updateSellTax confirmed (Ownable: caller is not the owner)  Block: 12  Gas used: 22547 (0.19%)

Transaction sent: 0x8e0b8cdd39ad3e9820c6b11234fcacf8dac1ab4f27aac90b9fc4387fda7a7eb
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 10
    NOVA.updateSellTax confirmed (Must keep fees at 15% or less)  Block: 13  Gas used: 32573 (0.27%)

Transaction sent: 0x805dc7de08bcbbbf1c2d5ab4719b50ae1bd0a017d77eb6588c823318cd2ed856
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 11
    NOVA.updateSellTax confirmed  Block: 14  Gas used: 32468 (0.27%)

tests/test_nova.py::test_update_sell_tax PASSED

```

```

tests/test_nova.py::test_exclude_from_max_tx RUNNING
Transaction sent: 0x06c4468934b72f39b2a01ecd956679f36ab9bc077c1b3556ae0875c4709cf34c
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 12
    UniswapV2Factory.constructor confirmed  Block: 15  Gas used: 2412742 (20.11%)
    UniswapV2Factory deployed at: 0x2c15A315610Bfa5248E4CbCbd693320e9D8E03Cc

Transaction sent: 0x463b522729850e0f35ba698419c8cdbde47672d93429e81e71054e561393cf3e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 13
    WETH9.constructor confirmed  Block: 16  Gas used: 476546 (3.97%)
    WETH9 deployed at: 0xe692Cf21B12e0B2717C4bF647F9768Fa58861c8b

Transaction sent: 0xd6e426b4ddf5f80212509e6228073e392459874101bf612418e65ef50be19ae0
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 14
    UniswapV2Router02.constructor confirmed  Block: 17  Gas used: 3895430 (32.46%)
    UniswapV2Router02 deployed at: 0xe65A7a341978d59d40d30FC23F5014FACB4f575A

Transaction sent: 0x04346b74163f4dc93b2a1de30f0e0ffa0dc794036e1378b6ebd74dec938e35fa
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 15
    NOVA.constructor confirmed  Block: 18  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0x30375B532345B01cB8c2AD12541b09E9Aa53A93d

Transaction sent: 0x11c8cd3761a152805b7104a2ddca305f85a3df4a8fff5e302deae2d04024b4b9
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 2
    NOVA.excludeFromMaxTransaction confirmed (Ownable: caller is not the owner)  Block: 19  Gas used: 22956 (0.19%)

Transaction sent: 0xd9ed9df215d8f07c6ff311279c27c953b7ea0a2e727fab31e6a32aa247ec1b88
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 16
    NOVA.excludeFromMaxTransaction confirmed (Cannot remove uniswap pair from max txn)  Block: 20  Gas used: 23591 (0.20%)

Transaction sent: 0xa6e86e820cb62d191ee38b14e772d0fb9cb4aa651bc6135f531337a3f8eec386
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 17
    NOVA.excludeFromMaxTransaction confirmed  Block: 21  Gas used: 43792 (0.36%)

tests/test_nova.py::test_exclude_from_max_tx PASSED
tests/test_nova.py::test_set_operation_addr RUNNING
Transaction sent: 0x070e45075db75e9ff7b54360466f2086549d224ad20f5c154c0827825bbfa840
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 18
    UniswapV2Factory.constructor confirmed  Block: 22  Gas used: 2412742 (20.11%)
    UniswapV2Factory deployed at: 0xed00238F9A0f7b4d93842033cdF56cCB32C781c2

Transaction sent: 0x1834d5daaa00eeec1fedfc869836c1f8474b256b8d46b3f7e0f8e944cce3736e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 19
    WETH9.constructor confirmed  Block: 23  Gas used: 476546 (3.97%)
    WETH9 deployed at: 0xDae02e4fE488952cFB8c95177154D188647a0146

Transaction sent: 0xc160e207d4ac0dafff3a6da53e2bc8c3e9f88bc7156aela5134b35d7f681aeb5
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 20
    UniswapV2Router02.constructor confirmed  Block: 24  Gas used: 3895418 (32.46%)
    UniswapV2Router02 deployed at: 0xdCF93F11ef216cEC9C07fd31dD801c9b2b39Afb4

Transaction sent: 0x4ed1468339078d85a6e5474caf574fb72b65112cba636703217bc85f0e5fed77
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 21
    NOVA.constructor confirmed  Block: 25  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0xBcb61491F1859f53438918F1A5aFCA542Af9D397

Transaction sent: 0xe7aac6c1755723b2312c0d83c7d017fc72175159606b3a78d5a0de35b1ac2f7c
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 3
    NOVA.setOperationsAddress confirmed (Ownable: caller is not the owner)  Block: 26  Gas used: 22749 (0.19%)

Transaction sent: 0x32faf8abe7211c10a63849e7db122a3e2800fc8d31b6cd4e71724cea344b8d75
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 22
    NOVA.setOperationsAddress confirmed (_operationsAddress address cannot be 0)  Block: 27  Gas used: 22562 (0.19%)

Transaction sent: 0xcdalffd945bc9cc4414b3f96f934fcfc64343b8d1af4eeda78f296c000925a5e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 23
    NOVA.setOperationsAddress confirmed  Block: 28  Gas used: 29667 (0.25%)

tests/test_nova.py::test_set_operation_addr PASSED

```

```

tests/test_nova.py::test_set_swap_restrictions RUNNING
Transaction sent: 0x9f341cc0407e322c84411ff5a73a82aec61e4aadbdb3140af9dd5f686b0405bf
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 24
  UniswapV2Factory.constructor confirmed  Block: 29  Gas used: 2412742 (20.11%)
  UniswapV2Factory deployed at: 0xf9C8Cf55f2E520B08d869df7bc76aa3d3ddDF913

Transaction sent: 0x3a96deb561e8800bad38cc46c5d968c8fff3583b4b267d56905c420a72ac6b
  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: 0x8c0085036df505a9698b007d1b310083af69f5c06bd77888d3e67421991fa560
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 26
  UniswapV2Router02.constructor confirmed  Block: 31  Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0xADeD61D42dE86f9058386D1D0d739d20C7eAfc43

Transaction sent: 0x4c60ccb41ce30048232c759493d0e84adb9fc510cc6cd7ea8a12a91c2aebac66
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 27
  NOVA.constructor confirmed  Block: 32  Gas used: 3231070 (26.93%)
  NOVA deployed at: 0x832698Daec363C9A7aB036C224Af5B21280b3AC6

Transaction sent: 0xaa6a9105e60bbb56eb2b24d511f43904bea879823b7bbea88653bd0e89dc19f2
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 4
  NOVA.setSwapRestrictions confirmed (Ownable: caller is not the owner)  Block: 33  Gas used: 22681 (0.19%)

Transaction sent: 0x93d5719b49adclae02d4693ff5c7e8bd615822a51ee20calddbd692a640bcc4
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 28
  NOVA.setSwapRestrictions confirmed (Max swaps per block must be greater than 0)  Block: 34  Gas used: 22698 (0.19%)

Transaction sent: 0xe5c4aea6efa7a7b09711e21664442785e94a28769a07b40691f0bf7fd228df4
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 29
  NOVA.setSwapRestrictions confirmed  Block: 35  Gas used: 29224 (0.24%)

tests/test_nova.py::test_set_swap_restrictions PASSED
tests/test_nova.py::test_update_swap_threshold RUNNING
Transaction sent: 0xe5b6ea882902e0316201c68857e5e9be85eecbe8d45559add4523a295f518fa8
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 30
  UniswapV2Factory.constructor confirmed  Block: 36  Gas used: 2412742 (20.11%)
  UniswapV2Factory deployed at: 0xF06D5f5BfFFCB6a52c84cfecb03AD35637728E73

Transaction sent: 0xb1ac668062bfb8a5bbef618b97le1ccaf5b136020219a707dc3fd635b4340ea
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 31
  WETH9.constructor confirmed  Block: 37  Gas used: 476546 (3.97%)
  WETH9 deployed at: 0x82c83b7f88aef2eD99d4869D547b6ED28e69C8df

Transaction sent: 0x965dc5a16582198f9f81af27b379220cb2800f0c619adbe71a9fe66f5443f726
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 32
  UniswapV2Router02.constructor confirmed  Block: 38  Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0x724Ca58E1e6e64BFB1E15d7Eec0fe1E5f581c7bD

Transaction sent: 0x79af7315f4563f4892efcb78da4124157e1d9758a9bbb39c4b54c795d9380c36
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 33
  NOVA.constructor confirmed  Block: 39  Gas used: 3231070 (26.93%)
  NOVA deployed at: 0x34b97ffa01dc0DC959c5f11762730de3be914C1

Transaction sent: 0xdba1611aa42c9f18d959045850f4128ab412ace65c874ddcef896b2a7487e5f4
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 5
  NOVA.updateSwapTokensAtAmount confirmed (Ownable: caller is not the owner)  Block: 40  Gas used: 22501 (0.19%)

Transaction sent: 0x8dab7c12cb010b3052b3ea60ef3564851bf91c4536acfe33f16fe7e12c0afea5
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 34
  NOVA.updateSwapTokensAtAmount confirmed (Swap amount cannot be lower than 0.001% total supply.)  Block: 41  Gas used: 23502 (0.20%)

Transaction sent: 0x4b0c2f332eb1261b4fe885645b9f23fe5ef5c1b3f1a770f5d7c0467d33eb1f89
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 35
  NOVA.updateSwapTokensAtAmount confirmed (Swap amount cannot be higher than 1% total supply.)  Block: 42  Gas used: 24581 (0.20%)

Transaction sent: 0xc9e22fd906aa9f922de248cc3689020568c2da46072cff6947be3bf3137083ba
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 36
  NOVA.updateSwapTokensAtAmount confirmed  Block: 43  Gas used: 29441 (0.25%)

tests/test_nova.py::test_update_swap_threshold PASSED

```

```
tests/test_nova.py::test_transfer_foreign RUNNING
Transaction sent: 0x4d893e0454a0b142baaf7369cb96349644d3aa99a7c60f76a9161ca1449fcfac6
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 37
  UniswapV2Factory.constructor confirmed  Block: 44  Gas used: 2412742 (20.11%)
  UniswapV2Factory deployed at: 0x4B0FccF53589c1F185B35db88bB315a0bBF9a3e0

Transaction sent: 0x3cb0616301ad9dd3248d828415cc338d09cfa8e67a10c48ac8c83e01050c9c7c
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 38
  WETH9.constructor confirmed  Block: 45  Gas used: 476546 (3.97%)
  WETH9 deployed at: 0xFE0F4Cf81B5c0a6Fd65a610FD9488F33aE9095cB

Transaction sent: 0x46cf1709d170f279dd5cab49e4735f48749995ca0811f1d37f399dd04e5c9a8b
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 39
  UniswapV2Router02.constructor confirmed  Block: 46  Gas used: 3895430 (32.46%)
  UniswapV2Router02 deployed at: 0x4e3E7dC9D84dA7BE8f017f4C36153A61341736d4

Transaction sent: 0x7047609efdccaca68d9e4b7e6b93038aba7c004952ae287c79d3295d5fd0e784
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 40
  NOVA.constructor confirmed  Block: 47  Gas used: 3231070 (26.93%)
  NOVA deployed at: 0x0AC45e945A008D3fc19da8f591be8601c1F63130

Transaction sent: 0xce1747730abc4f8f45977016ad8b5c5492787217d2c3dd372f8b0a48baa49b19
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 6
  NOVA.transferForeignToken confirmed (Ownable: caller is not the owner)  Block: 48  Gas used: 23018 (0.19%)

Transaction sent: 0xdf95f3a23f2d0c045101983ba4198640dcc3f6fa01ff4c8db1b9baeca7a71335
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 41
  NOVA.transferForeignToken confirmed (_token address cannot be 0)  Block: 49  Gas used: 23035 (0.19%)

Transaction sent: 0x63bfa604f7969930a6800c6bf600946f20de0a68f61d20bfd0376346c6c963
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 42
  NOVA.enableTrading confirmed  Block: 50  Gas used: 49616 (0.41%)

Transaction sent: 0x9fc05a14791b47289c70b2cbd78c248a0a567aece639ce73f28a4b9010a46274
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 43
  NOVA.transferForeignToken confirmed (Can't withdraw native tokens while trading is active)  Block: 51  Gas used: 24172 (0.20%)

Transaction sent: 0xba6d851aa0b3396b058c12105d9ea782dd4d8c6c57245ccb891b917b752229e3
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 44
  NOVA.constructor confirmed  Block: 52  Gas used: 3231070 (26.93%)
  NOVA deployed at: 0xaA7e46855e0506401214c9b1c35f3d889669609e

Transaction sent: 0x9c8cbfbcc3e5ef97fe1900311a33e40fb0abc5f56ef7113417168b28c796a607
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 45
  NOVA.removeLimits confirmed  Block: 53  Gas used: 14011 (0.12%)

Transaction sent: 0xcd34addef5971af3766410dcc53b3401d73627cc0b994961d8e58ff6248c0eca
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 0
  NOVA.transfer confirmed  Block: 54  Gas used: 44241 (0.37%)

Transaction sent: 0x4d18ab27f3904759700c2bf33bc71db5667d06b6f03f7e070762401ee35be2cc
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 46
  NOVA.transferForeignToken confirmed  Block: 55  Gas used: 49704 (0.41%)

tests/test_nova.py::test_transfer_foreign PASSED
```

```
tests/test_nova.py::test_transfer RUNNING
Transaction sent: 0x7802bab7e01f02099b3217fee5475baae368369f14eb7475ab94333973aacc3d
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 47
        UniswapV2Factory.constructor confirmed    Block: 56    Gas used: 2412742 (20.11%)
        UniswapV2Factory deployed at: 0x1aa96efd2B002541E830CB7f60e473AA24e31F9A

Transaction sent: 0x3413ee2dbec76324ff80f1456e586e1b8ef5141eb593261a0777a0be5fba17b
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 48
        WETH9.constructor confirmed    Block: 57    Gas used: 476546 (3.97%)
        WETH9 deployed at: 0x8b1B440724DCe2EE9779B58af841Ec59F545838B

Transaction sent: 0x70b0f8333295f685cda95221dbe384e011e688eb381d590be037c750bf51814
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 49
        UniswapV2Router02.constructor confirmed    Block: 58    Gas used: 3895418 (32.46%)
        UniswapV2Router02 deployed at: 0xC6D563d5c2243b27e7294511063f563ED701EA2C

Transaction sent: 0x95fc5d58f12bf239891545f3f92c056109678005913e7290dab6b23092bcb0cb
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 50
        NOVA.constructor confirmed    Block: 59    Gas used: 3231070 (26.93%)
        NOVA deployed at: 0xD537bF4b795b7D07Bd5F4bAf7017e3ce8360B1DE

Transaction sent: 0x6e8b67556312e87fa0a6dae50ec50b2c7084cda605ca4b107f04b60485052821
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 0
        NOVA.transfer confirmed (ERC20: transfer from the zero address)    Block: 60    Gas used: 22273 (0.19%)

Transaction sent: 0x22d9ad228c71552e63eb8a69427f3a4cff8e6e35f106be290df64ab433da5c98
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 7
        NOVA.transfer confirmed (ERC20: transfer to the zero address)    Block: 61    Gas used: 22068 (0.18%)

Transaction sent: 0x18d17a840fec17eda54711056871468c96c6847c6c636f1034573517637630fa
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 8
        NOVA.transfer confirmed (amount must be greater than 0)    Block: 62    Gas used: 22202 (0.19%)

Transaction sent: 0x5c9ad58dle62950e542ba2b3806b418739dd23309f6ca4c25ced96373fd5b679
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 9
        NOVA.transfer confirmed (Trading is not active.)    Block: 63    Gas used: 24938 (0.21%)

Transaction sent: 0x9a0d05ef8e9bec58d3289ac5f3ae352233a2482442fdc80ad6d0f46a03bb5129
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 10
        NOVA.enableTrading confirmed (Ownable: caller is not the owner)    Block: 64    Gas used: 22307 (0.19%)

Transaction sent: 0xcb87ef28e14596c11ab962dd1d9a599b9e9820fdda3a7e228327e713ee1246b6
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 51
        NOVA.enableTrading confirmed    Block: 65    Gas used: 49616 (0.41%)

Transaction sent: 0xc31ebbf69d745e9c8eb95765622d588942b3d5eada059e8595adc9bd9762098
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 52
        NOVA.enableTrading confirmed (Cannot reenable trading)    Block: 66    Gas used: 23126 (0.19%)

Transaction sent: 0x5e35fd07973bb980e7b1425ab1b2b4874b599886605fcfa985fe9d0986db938b
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 11
        NOVA.transfer confirmed (ERC20: transfer amount exceeds balance)    Block: 67    Gas used: 39650 (0.33%)

Transaction sent: 0x7175db145bf6bf80d4b2953f06bfc8d2e2d1f4e340532caf92de0becb0d26289
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 53
        NOVA.updateBuyTax confirmed    Block: 68    Gas used: 32464 (0.27%)

Transaction sent: 0xaab15cae3771ed23e5fe4d800b483f75e2179a3618cadc5ed897097673fb84d
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 54
        NOVA.updateSellTax confirmed    Block: 69    Gas used: 32468 (0.27%)

Transaction sent: 0xd2bd8162a8c42300ffd40c37dbf8711208eedb4f407ce96217ef7a9ddf504b19
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 1
        NOVA.transfer confirmed    Block: 70    Gas used: 67587 (0.56%)

Transaction sent: 0x3e9aec160712420ecee0e2eb353d503777cfdfaea9e30232025fcf22a885df
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 2
        NOVA.transfer confirmed    Block: 71    Gas used: 67575 (0.56%)

Transaction sent: 0x203c8fac30897e0e2d5cc89d9b63a731dc9a0e3ffb86e3381a589d4f3326cdec
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 12
        NOVA.transfer confirmed (Max Wallet Exceeded)    Block: 72    Gas used: 30444 (0.25%)

Transaction sent: 0x02bf130d3ed26cd0d623b2e90a13e1ca87a0c4814b95902cb104648c03261a76
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 13
        NOVA.transfer confirmed    Block: 73    Gas used: 52575 (0.44%)

Transaction sent: 0x4d142851a074cb3f6752b9ea3fd890decbe54dac19a4ead8d22b687975a2f58f
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 55
        NOVA.constructor confirmed    Block: 74    Gas used: 3231070 (26.93%)
        NOVA deployed at: 0xEFDE7eC452f9A203559896F64267809E248D044f

Transaction sent: 0x317715a545294f22471a60bf688ade2332284773ef2220f46fa7a859242d05f
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 57
        NOVA.prep confirmed    Block: 76    Gas used: 2380767 (19.84%)

Transaction sent: 0x033bd49e91bd61aeba5fbe87c4a089b2024137418b09f3536c4ed8c157a469e7
    Gas price: 0.0 gwei    Gas limit: 12000000    Nonce: 58
        NOVA.enableTrading confirmed    Block: 77    Gas used: 49616 (0.41%)
```

```
Transaction sent: 0xcd0c8c4a04b288b44da04975e7803706b2cbfa70f49d57529a927077351ac31b
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 59
    NOVA.updateBuyTax confirmed  Block: 78  Gas used: 32464 (0.27%)
Transaction sent: 0x9545b4aa7596d286da217d1e3ef747b95e19f432c6471f59d9066f64e74ddf91
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 60
    NOVA.updateSellTax confirmed  Block: 79  Gas used: 32468 (0.27%)
Transaction sent: 0x1c310f799d0acab7454c5250c726b12f9406be5c17a624e0fba45f8147eb5881
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 14
    NOVA.transfer confirmed (Sell transfer amount exceeds the max sell.)  Block: 80  Gas used: 29473 (0.25%)
Transaction sent: 0x4321ba61f8d33bccbf6928b72dbe4b7d6a7f7563b8829f8601339428cae50c8c
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 1
    NOVA.transfer confirmed (Buy transfer amount exceeds the max buy.)  Block: 81  Gas used: 28540 (0.24%)
Transaction sent: 0x485c410d51664507392ce05662d79af49eda95268b919ddc3f112001bd82abba
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 3
    NOVA.transfer confirmed  Block: 82  Gas used: 65036 (0.54%)
Transaction sent: 0x2c62309ce267723b440e34d5d872a7c0e8ed9ed5b5b9f94fc81e42840dddefbf
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 4
    NOVA.transfer confirmed  Block: 83  Gas used: 65024 (0.54%)
Transaction sent: 0xb349fd126e41bbb018ffdbc40a0824635b28de283bfc261841e69415c99e2137
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 15
    NOVA.transfer confirmed  Block: 84  Gas used: 97326 (0.81%)
Transaction sent: 0xb551f035318e18cc993ec0161e13a16940fc1715a79c10cb0cc8b83aa1072619
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 2
    NOVA.transfer confirmed  Block: 85  Gas used: 69118 (0.58%)
Transaction sent: 0xd13640f51e747e75ed6fb58b5cf3fa64913755b4b549017fe5ea708a1d28531
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 61
    NOVA.transferOwnership confirmed  Block: 86  Gas used: 30914 (0.26%)
Transaction sent: 0xc655a3120e561ec1ee74fb70ee5997b5d9dade7ecc2fd22090b737da15527fb8
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 16
    NOVA.renounceOwnership confirmed  Block: 87  Gas used: 15593 (0.13%)
tests/test_nova.py::test_transfer PASSED
tests/test_nova.py::test_prep RUNNING
Transaction sent: 0xb910d1a0cded464c357f07009877a7327428ab8329fd6eb779d5dd44ea0b5471
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 62
    UniswapV2Factory.constructor confirmed  Block: 88  Gas used: 2412742 (20.11%)
    UniswapV2Factory deployed at: 0xFB87C36009603855163ABe3BbF512D3F58fd3819
Transaction sent: 0x38bc3bd39f3fe67684f0ea20914ad85d66fd5f40800dbcc025b2fddff87a41ae
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 63
    WETH9.constructor confirmed  Block: 89  Gas used: 476546 (3.97%)
    WETH9 deployed at: 0x0764A8da0FCAa127b31E13b79E9a273Fb5B2bF26
Transaction sent: 0xb133d8331f286e1fcc25c463876dfe4cda5de7aaaf613ec14c135d53a87affa5
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 64
    UniswapV2Router02.constructor confirmed  Block: 90  Gas used: 3895430 (32.46%)
    UniswapV2Router02 deployed at: 0x2acc1AbFdC76E48e49c91f55512066B4DD6555Dd
Transaction sent: 0xa34622128a821fd6d9dc9b31f81e87eee661d0055b4dc660166c8622228d25
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 65
    NOVA.constructor confirmed  Block: 91  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0xFd87ceEa79b211268Fb182a48E43644543c08709
Transaction sent: 0xd9fd97b06ce7653c423a855ed1854987ala82200701bfc961161d0ad417b467a7
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 0
    NOVA.prep confirmed (Ownable: caller is not the owner)  Block: 92  Gas used: 22760 (0.19%)
Transaction sent: 0xe9c12bf7f597d35acd1996a9764f589f5f13d23ac12e0b43278d52e9e257bd7e
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 66
    NOVA.enableTrading confirmed  Block: 93  Gas used: 49616 (0.41%)
Transaction sent: 0xbfbba6315bea032b420093df4517744f8b884bb0dce841882ebf8beb587bd89a5
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 67
    NOVA.prep confirmed (Trading is already active, cannot relaunch.)  Block: 94  Gas used: 23603 (0.20%)
Transaction sent: 0x2a975589452e189b3b274a747f79cdadb5db8695d078bc12c5010f39b8da4957
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 68
    NOVA.constructor confirmed  Block: 95  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0x6a21483D01cFb6FAf0D5346C1e781337425D713B
Transaction sent: 0xb405674192d7974a4ce287f30c971b986ff072615efff3531b53a4d357538a21
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 69
    NOVA.prep confirmed (Must have ETH on contract to launch)  Block: 96  Gas used: 2164134 (18.03%)
Transaction sent: 0x66e6072088d4eb44320e3da96bf5d95b3ed5e002295e35310122ab5cb499df4f
  Gas price: 0.0 gwei  Gas limit: 12000000 Nonce: 71
    NOVA.prep confirmed  Block: 98  Gas used: 2380767 (19.84%)
tests/test_nova.py::test_prep PASSED
```

```
tests/test_nova.py::test_airdrop RUNNING
Transaction sent: 0xcab9f6d88b5678a05a48739276591c3962fd76bfed33271b8aaa5c255055830
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 72
    UniswapV2Factory.constructor confirmed  Block: 99  Gas used: 2412742 (20.11%)
    UniswapV2Factory deployed at: 0x63Cf24e22bbFAA28316Cca9b179eEC7810b8037B

Transaction sent: 0xe3450c688a2d34dc11b20cd9e08392cc0887482279730c9e96172628de509d44
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 73
    WETH9.constructor confirmed  Block: 100  Gas used: 476546 (3.97%)
    WETH9 deployed at: 0x8dB41305cA5f2852135dC2B969ba6084A32D4700

Transaction sent: 0x79413681fdf1e01b81cd732571d7df170dd7e441c3081c540072c473ec6f56a3
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 74
    UniswapV2Router02.constructor confirmed  Block: 101  Gas used: 3895418 (32.46%)
    UniswapV2Router02 deployed at: 0x795af5f6648254fFAA8fCd35ff03a4dCEe5054c9

Transaction sent: 0xf67db7e687605133a6e1693615fcce4eef661909a4f8b9ffde54705c30c59f2e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 75
    NOVA.constructor confirmed  Block: 102  Gas used: 3231070 (26.93%)
    NOVA deployed at: 0x8cdA0807D6251FED06361710b50f5592C6Af74f5

Transaction sent: 0xf7b8971557db5867ad057b669a7a971c65b4e8e314b567a781d05c09b20cab4e
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 17
    NOVA.airdropToWallets confirmed (Ownable: caller is not the owner)  Block: 103  Gas used: 24488 (0.20%)

Transaction sent: 0xb2dd5ab9e626c41faf381088495a2909081b90d81de17ca09db911b9e7469877
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 76
    NOVA.airdropToWallets confirmed (arrays must be the same length)  Block: 104  Gas used: 24217 (0.20%)

Transaction sent: 0x2363c98bd877328a73ae0e81a31c1bb829f546b2b14311480640efefe6e13cf7
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 77
    NOVA.airdropToWallets confirmed (Can only airdrop 200 wallets per txn due to gas limits)  Block: 105  Gas used: 186271 (1.55%)

Transaction sent: 0xf8b0e9a0bb497ee8e36f02210388159f679685547a961147836b21d615f01a26
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 5
    NOVA.transfer confirmed  Block: 106  Gas used: 61129 (0.51%)

Transaction sent: 0x6794a6253287f48cc60c84cbd381c87c89b243c997b989140c5f7f51cae20431
  Gas price: 0.0 gwei  Gas limit: 12000000  Nonce: 78
    NOVA.airdropToWallets confirmed  Block: 107  Gas used: 53670 (0.45%)

tests/test_nova.py::test_airdrop PASSED
```

Annexes

Testing code:

```
from brownie import (
    reverts,
)

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

from scripts.deploy import (
    deploy_weth,
    deploy_factory,
    deploy_router,
    deploy_erc,
    deploy_nova
)

def test_update_buy_tax(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)

    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_nova(owner)
```

```

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

    token.updateBuyTax(15, {"from": other})

with reverts("Must keep fees at 15% or less"):

    token.updateBuyTax(20, {"from": owner})


assert token.buyTotalFees() == 29

tx = token.updateBuyTax(10, {"from": owner})

assert token.buyTotalFees() == 10


def test_update_sell_tax(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

    factory = deploy_factory(owner, owner)

    weth = deploy_weth(owner)

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

    token = deploy_nova(owner)

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

        token.updateSellTax(15, {"from": other})

    with reverts("Must keep fees at 15% or less"):

        token.updateSellTax(20, {"from": owner})


    assert token.sellTotalFees() == 29

    tx = token.updateSellTax(10, {"from": owner})

    assert token.sellTotalFees() == 10


def test_exclude_from_max_tx(only_local):

    # Arrange

    owner = get_account(0)

    other = get_account(1)

    extra = get_account(2)

```

```

factory = deploy_factory(owner, owner)
weth = deploy_weth(owner)
router = deploy_router(owner, factory.address, weth.address)
token = deploy_nova(owner)

with reverts("Ownable: caller is not the owner"):
    token.excludeFromMaxTransaction(router.address, False, {"from": other})
pair = token.lpPair()
with reverts("Cannot remove uniswap pair from max txn"):
    token.excludeFromMaxTransaction(pair, False, {"from": owner})

tx = token.excludeFromMaxTransaction(other, True, {"from": owner})
assert token._isExcludedMaxTransactionAmount(other) == True

def test_set_operation_addr(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)
    operation_addr = "0x3840603E064450f2eb9297e8c89Da2F2d4cE49D2"

    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_nova(owner)

    with reverts("Ownable: caller is not the owner"):
        token.setOperationsAddress(extra, {"from": other})
    with reverts("_operationsAddress address cannot be 0"):
        token.setOperationsAddress(ZERO_ADDRESS, {"from": owner})

    assert token.operationsAddress() == operation_addr
    tx = token.setOperationsAddress(extra, {"from": owner})
    assert tx.events['UpdatedOperationsAddress'][0]['newWallet'] == extra

```

```
def test_set_swap_restrictions(only_local):  
    # Arrange  
  
    owner = get_account(0)  
    other = get_account(1)  
    extra = get_account(2)  
  
  
    factory = deploy_factory(owner, owner)  
    weth = deploy_weth(owner)  
    router = deploy_router(owner, factory.address, weth.address)  
    token = deploy_nova(owner)  
  
  
    with reverts("Ownable: caller is not the owner"):  
        token.setSwapRestrictions(True, 10, {"from": other})  
    with reverts("Max swaps per block must be greater than 0"):  
        token.setSwapRestrictions(True, 0, {"from": owner})  
  
  
    assert token.oncePerBlockEnabled() == True  
    assert token.maxSwapsPerBlock() == 1  
    token.setSwapRestrictions(True, 5, {"from": owner})  
    assert token.oncePerBlockEnabled() == True  
    assert token.maxSwapsPerBlock() == 5  
  
  
def test_update_swap_threshold(only_local):  
    # Arrange  
  
    owner = get_account(0)  
    other = get_account(1)  
    extra = get_account(2)  
  
  
    factory = deploy_factory(owner, owner)  
    weth = deploy_weth(owner)  
    router = deploy_router(owner, factory.address, weth.address)  
    token = deploy_nova(owner)  
  
  
    with reverts("Ownable: caller is not the owner"):
```

```

    token.updateSwapTokensAtAmount(100, {"from": other})

    with reverts("Swap amount cannot be lower than 0.001% total supply."):
        token.updateSwapTokensAtAmount(1, {"from": owner})

    with reverts("Swap amount cannot be higher than 1% total supply."):
        token.updateSwapTokensAtAmount(20000000e18, {"from": owner})

    tx = token.updateSwapTokensAtAmount(1000000e18, {"from": owner})
    assert token.swapTokensAtAmount() == 1000000e18

def test_transfer_foreign(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)
    treasury = "0x5Ce1b0Be09C5B6b1c6C9f8A9137Eb7f4A52cCAb9"

    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_nova(owner)

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

    with reverts("_token address cannot be 0"):
        token.transferForeignToken(ZERO_ADDRESS, other, {"from": owner})

    token.enableTrading({"from": owner})

    with reverts("Can't withdraw native tokens while trading is active"):
        token.transferForeignToken(token.address, other, {"from": owner})

    token = deploy_nova(owner)
    token.removeLimits({"from": owner})
    tx = token.transfer(token.address, 1e18, {"from": treasury})

```

```

tx = token.transferForeignToken(token.address, other, {"from": owner})

assert tx.events['TransferForeignToken'][0]['token'] == token.address


def test_transfer(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)
    another = get_account(3)

    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_nova(owner)
    pair = token.lpPair()

    with reverts("ERC20: transfer from the zero address"):
        token.transfer(other, 1e18, {"from": ZERO_ADDRESS})

    with reverts("ERC20: transfer to the zero address"):
        token.transfer(ZERO_ADDRESS, 1e18, {"from": other})

    with reverts("amount must be greater than 0"):
        token.transfer(extra, 0, {"from": other})

    with reverts("Trading is not active."):
        token.transfer(extra, 1e18, {"from": other})

    # enable trading

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

    tx = token.enableTrading({"from": owner})
    assert 'EnabledTrading' in tx.events

    with reverts("Cannot reenable trading"):
        token.enableTrading({"from": owner})

    with reverts("ERC20: transfer amount exceeds balance"):
        token.transfer(extra, 1e18, {"from": other})

```

```

# set fee

token.updateBuyTax(10, {"from": owner})
token.updateSellTax(10, {"from": owner})

# some transfers

token.transfer(other, 10e18, {"from": "0x5Ce1b0Be09C5B6b1c6C9f8A9137Eb7f4A52cCAb9"})
token.transfer(extra, 10e18, {"from": "0x5Ce1b0Be09C5B6b1c6C9f8A9137Eb7f4A52cCAb9"})

with reverts("Max Wallet Exceeded"):
    token.transfer(extra, 50_000_000e18, {"from": other})

# normal transfer

tx = token.transfer(extra, 1e18, {"from": other})
assert tx.events['Transfer'][0]['from'] == other
assert tx.events['Transfer'][0]['to'] == extra
assert tx.events['Transfer'][0]['value'] == 1e18

# Deploy again because it can not set de router after enable trading

token = deploy_nova(owner)
owner.transfer(token.address, "10 ether")
token.prep(router, {"from": owner})
pair = token.lpPair()
token.enableTrading({"from": owner})
token.updateBuyTax(10, {"from": owner})
token.updateSellTax(10, {"from": owner})

with reverts("Sell transfer amount exceeds the max sell."):
    token.transfer(pair, 50_000_000e18, {"from": other})
with reverts("Buy transfer amount exceeds the max buy."):
    token.transfer(other, 50_000_000e18, {"from": pair})

# some transfers

```

```

    token.transfer(other, 10e18, {"from": "0x5Ce1b0Be09C5B6b1c6C9f8A9137Eb7f4A52cCAb9"})
    token.transfer(extra, 10e18, {"from": "0x5Ce1b0Be09C5B6b1c6C9f8A9137Eb7f4A52cCAb9"})

# sell fee check (10%)
tx = token.transfer(pair, 2e18, {"from": other})
assert tx.events['Transfer'][0]['from'] == other
assert tx.events['Transfer'][0]['to'] == token.address
assert tx.events['Transfer'][0]['value'] == 0.2e18
assert tx.events['Transfer'][1]['from'] == other
assert tx.events['Transfer'][1]['to'] == pair
assert tx.events['Transfer'][1]['value'] == 1.8e18

# buy fee check (10%)
tx = token.transfer(extra, 1e18, {"from": pair})
assert tx.events['Transfer'][0]['from'] == pair
assert tx.events['Transfer'][0]['to'] == token.address
assert tx.events['Transfer'][0]['value'] == 0.1e18
assert tx.events['Transfer'][1]['from'] == pair
assert tx.events['Transfer'][1]['to'] == extra
assert tx.events['Transfer'][1]['value'] == 0.9e18

token.transferOwnership(other, {"from": owner})
token.renounceOwnership(True, {"from": other})

def test_prep(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)

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

```

```
token = deploy_nova(owner)

with reverts("Ownable: caller is not the owner"):
    token.prep(router, {"from": extra})

token.enableTrading({"from": owner})

with reverts("Trading is already active, cannot relaunch."):
    token.prep(router, {"from": owner})

token = deploy_nova(owner)
with reverts("Must have ETH on contract to launch"):
    token.prep(router, {"from": owner})

owner.transfer(token.address, "10 ether")
tx = token.prep(router, {"from": owner})
assert "PairCreated" in tx.events
assert "Deposit" in tx.events
assert "Mint" in tx.events

def test_airdrop(only_local):
    # Arrange
    owner = get_account(0)
    other = get_account(1)
    extra = get_account(2)

    factory = deploy_factory(owner, owner)
    weth = deploy_weth(owner)
    router = deploy_router(owner, factory.address, weth.address)
    token = deploy_nova(owner)

    with reverts("Ownable: caller is not the owner"):
        token.airdropToWallets([extra], [1e18], {"from": other})
    with reverts("arrays must be the same length"):
        token.airdropToWallets([extra], [], {"from": owner})
```

```
with reverts("Can only airdrop 200 wallets per txn due to gas limits"):  
    token.airdropToWallets([extra] * 210, [1e18] * 210, {"from": owner})  
  
    token.transfer(owner, 10e18, {"from": "0x5Ce1b0Be09C5B6b1c6C9f8A9137Eb7f4A52cCAb9"})  
  
    tx = token.airdropToWallets([extra], [1e18], {"from": owner})  
    assert tx.events['Transfer'][0]['from'] == owner  
    assert tx.events['Transfer'][0]['to'] == extra  
    assert tx.events['Transfer'][0]['value'] == 1e18
```

Technical Findings Summary

Findings

Vulnerability Level	Total	Pending	Not Apply	Acknowledged	Partially Fixed	Fixed
● High	1					
● Medium	1					
● Low	2					
● Informational	0					

Assessment Results

Score Results

Review	Score
Global Score	85/100
Assure KYC	https://projects.assureddefi.com/project/nova-ai
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 the Nova 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 NOVA 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 depreciation of technologies.

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