



TechRate
AUDIT COMPANY

Smart Contract Security Audit

Audit Details



Audited project

HulkToken



Deployer address

0xbc3c2c6e7baaeb7c7ea2ad4b2fa8681a91d47ccd



Client contacts:

HulkToken team



Blockchain

Binance Smart Chain



Project website:

<https://hulktoken.io/>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by HulkToken to perform an audit of smart contracts:

<https://bscscan.com/address/0xD8649293b44A1fe06161FC2ffD5bD49945EACAE0#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

Token contract details for 13.10.2021

Contract name	HulkToken
Contract address	0xD8649293b44A1fe06161FC2ffD5bD49945EACAE0
Total supply	10,000,000,000
Token ticker	HULK
Decimals	18
Token holders	41
Transactions count	283
Top 100 holders dominance	100.00%
Liquidity fee	300
BUSD reward fee	300
Marketing fee	400
Dividend tracker	0x46f17b65b68070a9494355986686091f76ed3edb
Total Fees	1200
Uniswap V2 pair	0x8a9c5c4cc78303086f0c4f52fdf572c4b505d819
Contract deployer address	0xbc3c2c6e7baaeb7c7ea2ad4b2fa8681a91d47ccd
Contract's current owner address	0x31b3bee83a1fd9b7eb3dcf53a98b3ec562e98a20

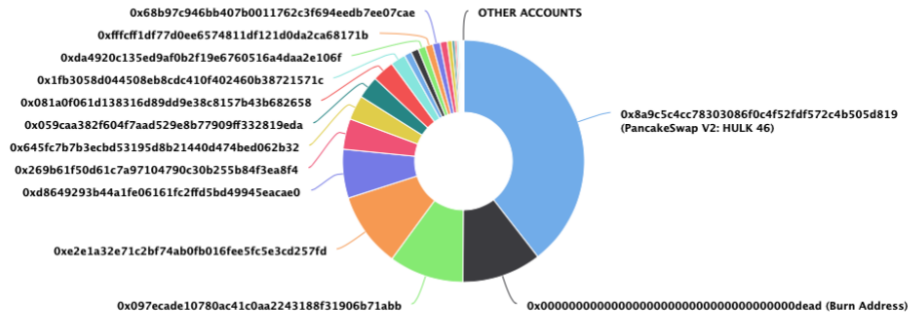
HulkToken Token Distribution

The top 100 holders collectively own 100.00% (10,000,000,000.00 Tokens) of HulkToken

Token Total Supply: 10,000,000,000.00 Token | Total Token Holders: 41

HulkToken Top 100 Token Holders

Source: BscScan.com



(A total of 10,000,000,000.00 tokens held by the top 100 accounts from the total supply of 10,000,000,000.00 token)

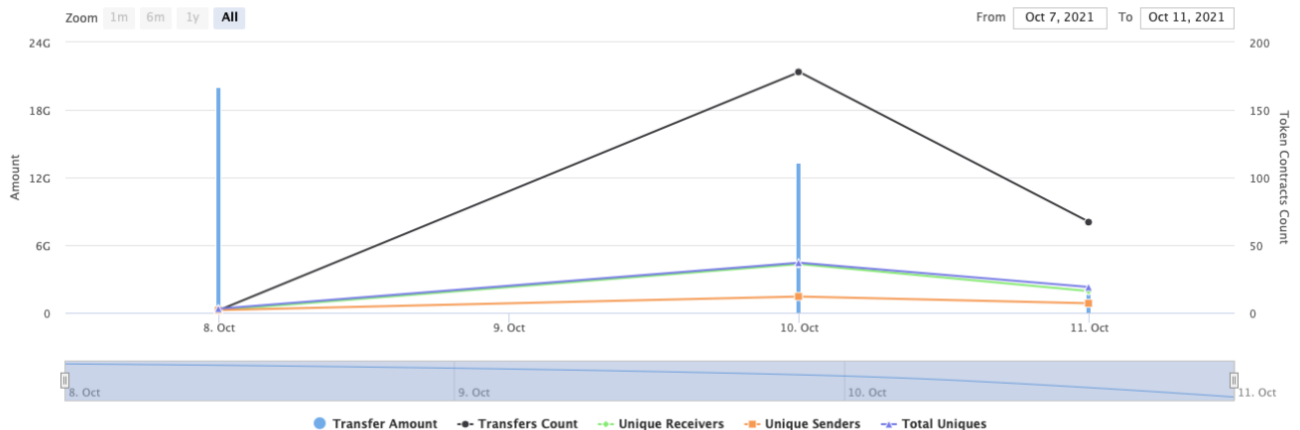
HulkToken Contract Interaction Details

Time Series: Token Contract Overview



Fri 8, Oct 2021 - Mon 11, Oct 2021

Token Contract 0xD8649293b44A1fe06161FC2ffD5bD49945EACAE0 (HulkToken)

Source: BscScan.com



HulkToken Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	 PancakeSwap V2: HULK 46	3,948,802,866.043975162509076016	39.4880%
2	Burn Address	1,059,058,730.487169083830824035	10.5906%
3	0x097ecade10780ac41c0aa2243188f31906b71abb	1,000,000,000	10.0000%
4	0xe2e1a32e71c2bf74ab0fb016fee5fc5e3cd257fd	1,000,000,000	10.0000%
5	 0xd8649293b44a1fe06161fc2ffd5bd49945eacae0	649,646,035.358859922139064719	6.4965%
6	0x269b61f50d61c7a97104790c30b255b84f3ea8f4	409,766,358.42927365873781172	4.0977%
7	0x645fc7b7b3ecbd53195d8b21440d474bed062b32	328,592,544.900911792959791976	3.2859%
8	0x059caa382f604f7aad529e8b77909ff332819eda	300,000,000	3.0000%
9	0x081a0f061d138316d89cd9e38c8157b43b682658	292,863,413.23355226861279726	2.9286%
10	0x1fb3058d044508eb8cdc410f402460b38721571c	200,000,000	2.0000%



Contract functions details

+ Context

- [Int] _msgSender
- [Int] _msgData

+ [Int] IERC20Metadata (IERC20)

- [Ext] name
- [Ext] symbol
- [Ext] decimals

+ [Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ [Int] AdditionalTypes

+ [Int] IDividendPayingToken (AdditionalTypes)

- [Ext] dividendOf
- [Ext] distributeDividends (\$)
- [Ext] withdrawDividend #
- [Ext] distributeDividendsBUSD #

+ [Int] IDividendPayingTokenOptional (AdditionalTypes)

- [Ext] withdrawableDividendOf
- [Ext] withdrawnDividendOf
- [Ext] accumulativeDividendOf

+ [Int] IRewardDividendTracker (AdditionalTypes, IERC20, IDividendPayingToken, IDividendPayingTokenOptional)

- [Ext] owner
- [Ext] excludeFromDividends #
- [Ext] updateClaimWait #
- [Ext] claimWait
- [Ext] totalDividendsDistributed
- [Ext] getAccountAtIndex
- [Ext] processAccount #
- [Ext] setMinimumTokenBalanceForDividends #
- [Ext] getLastProcessedIndex
- [Ext] getNumberOfTokenHolders
- [Ext] getAccount
- [Ext] setBalance #
- [Ext] process #

+ [Int] IUniswapV2Factory

- [Ext] feeTo
- [Ext] feeToSetter
- [Ext] getPair
- [Ext] allPairs

- [Ext] allPairsLength
- [Ext] createPair #
- [Ext] setFeeTo #
- [Ext] setFeeToSetter #

+ [Int] IUniswapV2Pair

- [Ext] name
- [Ext] symbol
- [Ext] decimals
- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance
- [Ext] approve #
- [Ext] transfer #
- [Ext] transferFrom #
- [Ext] DOMAIN_SEPARATOR
- [Ext] PERMIT_TYPEHASH
- [Ext] nonces
- [Ext] permit #
- [Ext] MINIMUM_LIQUIDITY
- [Ext] factory
- [Ext] token0
- [Ext] token1
- [Ext] getReserves
- [Ext] price0CumulativeLast
- [Ext] price1CumulativeLast
- [Ext] kLast
- [Ext] mint #
- [Ext] burn #
- [Ext] swap #
- [Ext] skim #
- [Ext] sync #
- [Ext] initialize #

+ [Int] IUniswapV2Router01

- [Ext] factory
- [Ext] WETH
- [Ext] addLiquidity #
- [Ext] addLiquidityETH (\$)
- [Ext] removeLiquidity #
- [Ext] removeLiquidityETH #
- [Ext] removeLiquidityWithPermit #
- [Ext] removeLiquidityETHWithPermit #
- [Ext] swapExactTokensForTokens #
- [Ext] swapTokensForExactTokens #
- [Ext] swapExactETHForTokens (\$)
- [Ext] swapTokensForExactETH #
- [Ext] swapExactTokensForETH #
- [Ext] swapETHForExactTokens (\$)
- [Ext] quote
- [Ext] getAmountOut
- [Ext] getAmountIn
- [Ext] getAmountsOut
- [Ext] getAmountsIn

- + [Int] IUniswapV2Router02 (IUniswapV2Router01)
 - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
 - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
 - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
 - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens (\$)
 - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

- + Ownable (Context)
 - [Pub] <Constructor> #
 - [Pub] owner
 - [Pub] operator
 - [Pub] renounceOwnership #
 - modifiers: onlyOwner
 - [Pub] transferOwnership #
 - modifiers: onlyOperator
 - [Pub] transferOperator #
 - modifiers: onlyOperator
 - [Prv] _setOwner #

- + [Lib] SafeMath
 - [Int] tryAdd
 - [Int] trySub
 - [Int] tryMul
 - [Int] tryDiv
 - [Int] tryMod
 - [Int] add
 - [Int] sub
 - [Int] mul
 - [Int] div
 - [Int] mod
 - [Int] sub
 - [Int] div
 - [Int] mod

- + ERC20 (Context, IERC20, IERC20Metadata)
 - [Pub] <Constructor> #
 - [Pub] name
 - [Pub] symbol
 - [Pub] decimals
 - [Pub] totalSupply
 - [Pub] balanceOf
 - [Pub] transfer #
 - [Pub] allowance
 - [Pub] approve #
 - [Pub] transferFrom #
 - [Pub] increaseAllowance #
 - [Pub] decreaseAllowance #
 - [Int] _transfer #
 - [Int] _mint #
 - [Int] _burn #
 - [Int] _approve #
 - [Int] _beforeTokenTransfer #
 - [Int] _afterTokenTransfer #

- + HulkToken (ERC20, Ownable)

- [Pub] <Constructor> #
 - modifiers: ERC20
- [Pub] decimals
- [Ext] <Fallback> (\$)
- [Ext] setSellFeeMultiplier #
 - modifiers: onlyOwner
- [Ext] setSwapTokensAtAmount #
 - modifiers: onlyOwner
- [Ext] setEnableSwapAndLiquify #
 - modifiers: onlyOwner
- [Ext] setMarketingWallet #
 - modifiers: onlyOwner
- [Ext] setMaxBuyTransaction #
 - modifiers: onlyOwner
- [Ext] setMaxSellTransaction #
 - modifiers: onlyOwner
- [Ext] setMaxWalletToken #
 - modifiers: onlyOwner
- [Pub] updateDividendTracker #
 - modifiers: onlyOwner
- [Pub] updateFees #
 - modifiers: onlyOwner
- [Pub] updateUniswapV2Router #
 - modifiers: onlyOwner
- [Pub] excludeFromMaxHold #
 - modifiers: onlyOwner
- [Pub] excludeFromMaxTX #
 - modifiers: onlyOwner
- [Pub] excludeFromFees #
 - modifiers: onlyOwner
- [Pub] excludeMultipleAccountsFromFees #
 - modifiers: onlyOwner
- [Pub] updateGasForProcessing #
 - modifiers: onlyOwner
- [Ext] updateClaimWait #
 - modifiers: onlyOwner
- [Ext] getClaimWait
- [Ext] getTotalDividendsDistributed
- [Pub] isExcludedFromFees
- [Pub] withdrawableDividendOf
- [Pub] dividendTokenBalanceOf
- [Ext] getAccountDividendsInfo
- [Ext] getAccountDividendsInfoAtIndex
- [Ext] processDividendTracker #
- [Ext] claim #
- [Ext] getLastProcessedIndex
- [Ext] getNumberOfDividendTokenHolders
- [Int] _transfer #
- [Prv] addLiquidity #
- [Prv] swapTokensForBNB #
- [Prv] swapBNBForDividendTokens #
- [Prv] swapAndSendDividends #
- [Ext] sendDividendsDirectlyOnlyForTest #
 - modifiers: onlyOwner
- [Prv] transferToMarketing #

- [Pub] amountInETH
- [Ext] withdrawStuckTokens #
 - modifiers: onlyOwner
- [Ext] withdrawStuckBnb #
 - modifiers: onlyOwner

(\$) = payable function

= non-constant function

Issues Checking Status

Issue description	Checking status
1. Compiler errors.	Passed
2. Race conditions and Reentrancy. Cross-function race conditions.	Passed
3. Possible delays in data delivery.	Passed
4. Oracle calls.	Passed
5. Front running.	Passed
6. Timestamp dependence.	Passed
7. Integer Overflow and Underflow.	Passed
8. DoS with Revert.	Passed
9. DoS with block gas limit.	Low issues
10. Methods execution permissions.	Passed
11. Economy model of the contract.	Passed
12. The impact of the exchange rate on the logic.	Passed
13. Private user data leaks.	Passed
14. Malicious Event log.	Passed
15. Scoping and Declarations.	Passed
16. Uninitialized storage pointers.	Passed
17. Arithmetic accuracy.	Passed
18. Design Logic.	Passed
19. Cross-function race conditions.	Passed
20. Safe Open Zeppelin contracts implementation and usage.	Passed
21. Fallback function security.	Passed

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

1. Out of gas

Issue:

- The function `excludeMultipleAccountsFromFees()` uses the loop to exclude multiple accounts from fees. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

Notes:

- Dividend tracker may be changed. So that logic of `setBalance` and other functions could be another and not audited.

Owner privileges (In the period when the owner is not renounced)

- Owner can change sell fee multiplier.
- Owner can update amount to swap token.
- Owner can enable / disable swap and liquify.
- Owner can change marketing wallet address.
- Owner can change the maximum buy / sell transaction amount and exclude some account from this limit.
- Owner can change the maximum wallet limit and exclude some account from this limit.
- Owner can change dividend tracker.
- Owner can change fees.
- Owner can change the dividend reward and marketing fee.
- Owner can change Uniswap router address.
- Owner can exclude from fees.
- Owner can update gas for processing.
- Owner can update `claimWait` value.
- Owner can withdraw tokens and BNBs.
- Owner can call `sendDividendsDirectlyOnlyForTest()` function.

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract. Dividend tracker is not audited, so some functions may work unexpected way.

Liquidity locking details provided by the team:

<https://team.finance/view-coin/0xD8649293b44A1fe06161FC2ffD5bD49945EACAE0>

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.



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