

RugFreeCoins Audit



DOGEBOT Token Audit
Smart Contract Security Audit
August 25, 2021

Contents

Audit details	1
Disclaimer	2
Background	3
About the project	4
Target market and the concept	7
Potential to grow with score points	9
Total Points	9
Contract details	10
Token distribution	11
Contract code function details	12
Contract description table	13
Security issue checking status	22
Owner privileges	24
Audit conclusion	26

Audit details



Audited project

DOGEBOT Token



Contract Address

0xb99261a78ee7f7bde822eb87c80c23dfb4333dc8



Client contact

DOGEBOT Token Team



Blockchain

Binance smart chain



Project website

https://www.dogeb0t.com/

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 disclaimer below – please make sure to read it in full.

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Background

Rugfreecoins was commissioned by DOGEBOT to perform an audit of the smart contract.

https://www.bscscan.com/address/0xb99261a78ee7f7bde822eb87c80c23dfb4333dc8

The focus of this audit is to verify that the smart contract is secure, resilient and working according to the specifications.

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

About the project

DOGEB0T is a token built on the Binance Smart Chain. Each transaction, purchase incur a 7% fee, and sales incur a 14% fee. Also, manual buying tax of 15% and selling tax of 30% will be in place to activate the shield when a big sell off has happened or when the price is dropping for some weeks in a row.

DOGEB0T is the first project to have competitive liquidity mining. That means that in parallel to the liquidity available in the exchanges, there is a pool reserved for competitions in which users will get free DB0T tokens to basically carry out marketing tasks. This revolutionary and smart concept will act as a top layer of our marketing campaigns as holders are mining tokens while helping the project grow in holders' market capitalization.

Features

- ❖ 5% of regular fee when buying, 10% of regular fee when selling, 1% of shield fee when buying and 8.5% of shield fee when selling of each transaction gets converted to BNBs and is split amongst all holders. The holders will be eligible to receive tokens everyone hour and rewards are proportional to how many tokens each individual holds.
- ❖ The liquidity fee of 2% of regular fee when buying, 4% of regular fee when selling, 14% of shield fee when buying and 21.5% of shield fee when selling, which is a redistribution mechanism that ensures the trading pool always has sufficient liquidity.

Tokenomics

7% fee when buying

- ❖ 85% of trade goes to holders' pockets in BNB.
- 2% of trade goes to a private wallet for liquidity.

14% fee when selling

- ❖ 10% of trade goes to holders' pockets in BNB.
- 4% of trade goes to a private wallet for liquidity.

Shield protocol (Manual fee setup)

. 15% fee when buying

- ❖ 1% of trade goes to holders' pockets in BNB.
- ❖ 14% of trade goes to a private wallet for liquidity.

30% fee when selling

- ❖ 8.5% of trade goes to holders' pockets in BNB.
- 21.5% of trade goes to a private wallet for liquidity.

Roadmap

Ignition

- Initial marketing campaign
- Top vote webs listing
- Full audit
- First liquidity competition
- Presale on Dxsale

Launch

- PancakeSwap Listing (trading ON)
- Nuclear ignition (1st 5% Burning)
- Trip welcome (1st 5% airdrop)
- ❖ 2000 DB0T holders
- 10BNB Giveaway competition

Impulse

- Coingeko listing
- Coinmarketcap listing
- 25000 Telegram members
- ❖ 10000 DB0T holders
- Blackhole (2nd 5% burning)

Boost

- Wormhole gift 5% airdrop
- ❖ Chart Viewer v1
- ❖ NFT MarketPlace DCL
- Merchandise store
- Exchange listings

Target market and the concept

Target market

- ❖ Anyone who's interested in Crypto space with long term investment plans.
- ❖ Anyone who's ready to earn a passive income from BNB by holding tokens.
- Anyone who's interested in trading tokens.
- ❖ Anyone who's interested in taking part with DOGEB0T future plans.
- Anyone who's interested in taking part in making decisions in terms of marketing and development of the CaptainBNB ecosystem being a token holder.
- Anyone who's interested in making financial transactions with any other party DOGEB0T using as the currency.
- Anyone who's interested in doing marketing tasks and getting paid in BNB or DOGEB0T tokens.

Core concept

DOGEB0T is a competitive liquidity mining project to mine DB0Ts, BNBs, and prices in weekly competitions by doing tasks.

The BNB reward system

5% of regular fee when buying, 10% of regular fee when selling, 1% of shield fee when buying and 8.5% of shield fee when selling of each transaction gets converted to BNBs and is split amongst all holders. The rewards are sent to holders that have at least 5,000,000 DOGEB0T tokens, holders will be eligible to receive tokens everyone hour and rewards are proportional to how many tokens each individual holds.

Sustainable mechanism

The marketing wallet will hold 6% tokens from the total supply that reflection will be distributed to the wallet proportional to the amounts that the wallet holds. This way, DOGEBOT will have access to the funds without selling tokens as the traditional way, which will enable them to consume funds without hurting the project.

The liquidity fee of 2% of regular fee when buying, 4% of regular fee when selling, 14% of shield fee when buying and 21.5% of shield fee when selling, which is a redistribution mechanism that ensures the trading pool always has sufficient liquidity.

Anti-dumping

The DOGEB0T contract includes a function that stops all sales above 0.05% of the total supply. This will discourage (mini)-whales from dumping all their bags at once.

Anti-whale strategy

Anti-pump and dump: Certain groups of individuals practice pump and dump schemes, in order to lure in outside investors by the looks of a bullish chart, and sell at a high point. DOGEB0T have shield mechanism in place, where owners will manually activate the shield when big sell off happens or when the price is dropping for some weeks in a row, and a large portion from the fee will be allocated for liquidity in a private wallet.

The Protection Shield will be manually activated by owners and suddenly trigger a change in the reflection algorithm to increase the sell fee and buy fee to protect the liquidity and market capitalization. This will cause more friction to drop and a gentle levitation force to rise while the market cap is kept healthy.

Potential to grow with score points

1.	Project efficiency	9/10
2.	Project uniqueness	9/10
3	Information quality	9/10
4	Service quality	9/10
5	System quality	9/10
6	Impact on the community	9/10
7	Impact on the business	9/10
8	Preparing for the future	8/10
Total	Points	8.88/10

Contract details

Token contract details for 25th August 2021

Contract name	DOGEBOT
Contract address	0xb99261a78ee7f7bde822eb87c80c23dfb4333dc8
Token supply	100,000,000,000
Token ticker	DB0T
Decimals	18
Token holders	2
Transaction count	2
Liquidity wallet	0xaf5e609025d06a8019c22009625807fe089609ad
Dividend Tracker	0x6e0b11a2c43a8ae66b7b4bcc589204b8fffb01cf
Contract deployer address	0xAF5E609025D06a8019c22009625807Fe089609Ad
Contract's current owner address	0xaf5e609025d06a8019c22009625807fe089609ad

Token distribution

Tokens are distributed as follows:

70% of the circulating supply will be distributed to the holders in presale, competitions, and airdrops. The liquidity will be locked for 1 year and 75% of the presale liquidity will be directly added to Pancakeswap.

Within the liquidity supply, 10% is locked and reserved for the nuclear ignition and blackhole (Video streamed burning), 3% of the supply will be locked for trip welcome and wormhole gift (Video streamed airdrops), 6% will be kept on spaceship wallet for marketing and events, 3% will be kept for ecosystem developing, audits and NFT, 2% will be a lock for DOGEB0T team and 2% Dxsale Presale fees.

The marketing wallet will hold 6% tokens from the total supply that reflection will be distributed to the wallet proportional to the amounts that the wallet holds.

Contract code function details

No	Category	Item	Result
		BRC20 Token standards	pass
		compile errors	pass
		Compiler version security	pass
		visibility specifiers	pass
	Coding conventions	Gas consumption	pass
1		SafeMath features	pass
		Fallback usage	pass
		tx.origin usage	pass
		deprecated items	pass
		Redundant code	pass
		Overriding variables	pass
		Authorization of function call	pass
2	2 Function call audit	Low level function (call/delegate call) security	pass
		Returned value security	pass
		Selfdestruct function security	pass
		Access control of owners	informational
3	Business security	Business logics	informational
		Business implementations	pass
4	Integer overflow/underflow		pass
5	Reentrancy		pass
6	Exceptional reachable state		pass
7	Transaction ordering dependence		pass
8	Block properties dependence		pass
9	Pseudo random number generator (PRNG)		pass
10	DoS (Denial of Service)		pass
11	Token vesting implementation		pass
12	Fake deposit		pass
13	Event security		pass

Contract description table

Below table represents the summary of the contracts and methods in the token contract. We scanned the whole contract and listed down all the Interfaces, functions and implementations with its visibility and mutability.

Contract	Туре	Bases		
L	Function Name	Visibility	Mutability	Modifiers
	1	I		
IERC20	Interface			
L	totalSupply	External [ио₿
L	balanceOf	External [NO
L	transfer	External [NO
L	allowance	External [NO
L	approve	External [NO
L	transferFrom	External [NO
IERC20Metadata	Interface	IERC20		
L	name	External [NO
L	symbol	External [NO
L	decimals	External [NO
Context	Implementation			
L	_msgSender	Internal 🖺		
L	_msgData	Internal 🖺		
				_
SafeMath	Library			
L	add	Internal 🖺		
L	sub	Internal 🖺		
L	sub	Internal 🖺		
L	mul	Internal 🖺		

L	div	Internal 🖺		
L	div	Internal 🖺		
L	mod	Internal 🖺		
L	mod	Internal 🖺		
			,	
ERC20	Implementation	Context, IERC20, IERC20Metadata		
L		Public [№
L	name	Public [№
L	symbol	Public [№
L	decimals	Public [№
L	totalSupply	Public [№
L	balanceOf	Public [№
L	transfer	Public [№
L	allowance	Public [№
L	approve	Public [№
L	transferFrom	Public [№
L	increaseAllowance	Public [NO
L	decreaseAllowanc e	Public [NO
L	_transfer	Internal 🖺		
L	_mint	Internal 🖺		
L	_burn	Internal 🖺		
L	_approve	Internal 🖺		
L	_beforeTokenTran sfer	Internal 🖺		
				<u>, </u>
SafeMathUint	Library			
L	toInt256Safe	Internal 🖺		
SafeMathInt	Library			
L	mul	Internal 🖺		

	T		ı	
L	div	Internal 🖺		
L	sub	Internal <u></u>		
L	add	Internal <u></u>		
L	abs	Internal A		
L	toUint256Safe	Internal A		
DividendPayingToken Interface	Interface			
L	dividendOf	External [ио[
L	distributeDividend s	External [國豆	№
L	withdrawDividend	External [NO
DividendPayingToken OptionalInterface	Interface			
L	withdrawableDivid endOf	External [NO
L	withdrawnDividend Of	External [NO
L	accumulativeDivid endOf	External [NO
DividendPayingToken	Implementation	ERC20, DividendPayingTokenl nterface, DividendPayingToken OptionalInterface		
L		Public [ERC20
L		External [<u>E</u>	№
L	distributeDividend s	Public [<u>cin</u>	NO
L	withdrawDividend	Public [NO
L	_withdrawDividend OfUser	Internal A		
L	dividendOf	Public [NO
L	withdrawableDivid endOf	Public [NO
L	withdrawnDividend Of	Public [NO
L	accumulativeDivid endOf	Public [NO

L	_transfer	Internal 🖺	
L	_mint	Internal 🖺	
L	_burn	Internal 🖺	
L	_setBalance	Internal 🖺	
IterableMapping	Library		
L	get	Public [NO
L	getIndexOfKey	Public 🎚	NO
L	getKeyAtIndex	Public [NO
L	size	Public [NO
L	set	Public [NO
L	remove	Public [NO
Ownable	Implementation	Context	
L		Public [NO
L	owner	Public [NO
L	renounceOwnershi p	Public [onlyOwner
L	transferOwnership	Public [onlyOwner
L	getUnlockTime	Public [NO
L	getTime	Public [NO
L	lock	Public [onlyOwner
L	unlock	Public [NO
IUniswapV2Pair	Interface		
L	name	External [NO
L	symbol	External [NO
L	decimals	External [NO
L	totalSupply	External [NO
L	balanceOf	External [NO

L	allowance	External [NO
L	approve	External [NO
L	transfer	External [NOÏ
L	transferFrom	External [NO[
L	DOMAIN_SEPAR ATOR	External [NO
L	PERMIT_TYPEHA	External [NO
L	nonces	External [NO
L	permit	External [NO
Ľ	MINIMUM_LIQUID ITY	External [NOÏ
Ľ	factory	External [NOÏ
Ľ	token0	External [NOÎ
L	token1	External [NOÎ
Ľ	getReserves	External [NOÎ
Ľ	price0CumulativeL ast	External [NOÎ
L	price1CumulativeL ast	External [NOÎ
Ľ	kLast	External [NOÎ
Ľ	mint	External [NOÎ
L	burn	External [NOÎ
L	swap	External [NOÎ
Ľ	skim	External [NOÎ
Ľ	sync	External [NOÎ
Ľ	initialize	External [NOÏ
IUniswapV2Factory	Interface		
L	feeTo	External [NO
L	feeToSetter	External [NOÎ
L	getPair	External [NOÎ
L	allPairs	External [NO

L	allPairsLength	External [NO
L	createPair	External [NO[
L	setFeeTo	External [NO
L	setFeeToSetter	External [NOÏ
IUniswapV2Router01	Interface			
L	factory	External [NO
L	WETH	External [МО[
L	addLiquidity	External [NO
L	addLiquidityETH	External [<u>a</u>	NO
L	removeLiquidity	External [NO
L	removeLiquidityET H	External [NO
L	removeLiquidityWi thPermit	External [NO[
L	removeLiquidityET HWithPermit	External [NOÎ
L	swapExactTokens ForTokens	External [NOÎ
L	swapTokensForEx actTokens	External [NO
L	swapExactETHFor Tokens	External [<u>a</u> D	NO
L	swapTokensForEx actETH	External [NOÏ
L	swapExactTokens ForETH	External [NOÎ
L	swapETHForExact Tokens	External [<u>a</u> D	NO
L	quote	External [NO
L	getAmountOut	External [NOÎ
L	getAmountIn	External [NO
L	getAmountsOut	External [NOÎ
L	getAmountsIn	External [NO
IUniswapV2Router02	Interface	IUniswapV2Router01		
L	removeLiquidityET HSupportingFeeO nTransferTokens	External [NO

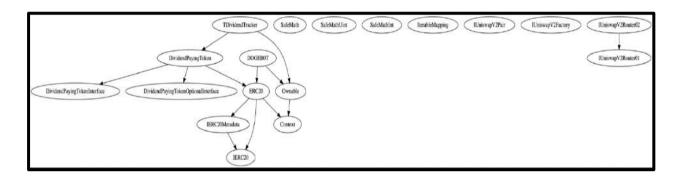
L	removeLiquidityET HWithPermitSupp ortingFeeOnTransf erTokens	External [NOI
L	swapExactTokens ForTokensSupport ingFeeOnTransfer Tokens	External [NOI
L	swapExactETHFor TokensSupporting FeeOnTransferTo kens	External [<u>ap</u>	NOÎ
L	swapExactTokens ForETHSupporting FeeOnTransferTo kens	External [NOI
DOGEB0T	Implementation	ERC20, Ownable		
L		Public [ERC20
L		External [<u>a</u> p	ио[
L	whitelistDxSale	Public [onlyOwner
L	updateDividendTr acker	Public [onlyOwner
L	updateUniswapV2 Router	Public [onlyOwner
L	excludeFromFees	Public [onlyOwner
L	excludeMultipleAc countsFromFees	Public [onlyOwner
L	setMaxTxAmount	External [onlyOwner
L	setSwapTokensAt Amount	External [onlyOwner
L	setAutomatedMark etMakerPair	Public [onlyOwner
L	_setAutomatedMa rketMakerPair	Private 🖺		
L	setBNBRewardFe e	External [onlyOwner
L	setLiquidityFee	External [onlyOwner
L	updateLiquidityWa llet	Public [onlyOwner
L	updateGasForPro cessing	Public [onlyOwner
L	updateClaimWait	External [onlyOwner
L	getClaimWait	External [NO
L	getTotalDividends Distributed	External [NO

L	isExcludedFromFe	Public [NO
L	es withdrawableDivid endOf	Public		NO[
L	dividendTokenBal anceOf	Public 🎚		NO
L	getAccountDividen dsInfo	External [NO
L	getAccountDividen dsInfoAtIndex	External [NO
L	processDividendTr acker	External [NO
L	claim	External [NO
L	getLastProcessedI ndex	External [ио[
L	getNumberOfDivid endTokenHolders	External [NO
L	_transfer	Internal 🖺		
L	swapAndLiquify	Private 🖺		
L	swapTokensForEt h	Private 🖺		
L	addLiquidity	Private 🖺		
L	swapAndSendDivi dends	Private 🖺		
TDividendTracker	Implementation	DividendPayingToken, Ownable		
TDividendTracker	Implementation			DividendPa yingToken
	Implementation _transfer	Ownable		
L	-	Ownable Public [
L L	_transfer	Ownable Public Internal		yingToken
L L	_transfer withdrawDividend excludeFromDivid	Ownable Public Internal Public Public	•	yingToken NO
L L L	_transfer withdrawDividend excludeFromDivid ends	Ownable Public Internal Public External		yingToken NO onlyOwner
L L L	_transfer withdrawDividend excludeFromDivid ends updateClaimWait getLastProcessedI	Ownable Public Internal Public External External		yingToken NO onlyOwner onlyOwner
L L L L	_transfer withdrawDividend excludeFromDivid ends updateClaimWait getLastProcessedI ndex getNumberOfToke	Ownable Public Internal Public External External External External		yingToken NO onlyOwner onlyOwner NO NO NO NO NO NO NO NO NO N
L L L L L	_transfer withdrawDividend excludeFromDivid ends updateClaimWait getLastProcessedI ndex getNumberOfToke nHolders	Ownable Public Internal Public External External External External Public Publ		yingToken NO onlyOwner onlyOwner NO NO NO NO
L L L L L L	_transfer withdrawDividend excludeFromDivid ends updateClaimWait getLastProcessedI ndex getNumberOfToke nHolders getAccount	Ownable Public Internal Public External External External External Public Publ		yingToken NO onlyOwner onlyOwner NO NO NO NO NO NO NO NO NO N
L L L L L L L	_transfer withdrawDividend excludeFromDivid ends updateClaimWait getLastProcessedI ndex getNumberOfToke nHolders getAccount getAccountAtIndex	Ownable Public Internal Public External External External External Public Public Public		yingToken NO onlyOwner onlyOwner NO NO NO NO NO NO NO NO NO N
L L L L L L L L	_transfer withdrawDividend excludeFromDivid ends updateClaimWait getLastProcessedI ndex getNumberOfToke nHolders getAccount getAccountAtIndex canAutoClaim	Ownable Public Internal Public External External External Public Public Public Private		yingToken NO OnlyOwner onlyOwner NO NO NO NO NO NO NO NO NO N

Legend

Symbol	Meaning
	Function can modify state
UD	Function is payable

Inheritance Hierarchy



Security issue checking status

- High severity issues
 - No high severity issues found.
- Medium severity issues
 - No medium severity issues found.
- Low severity issues
 - No low severity issues found.
- ❖ Informational
 - Liquidity is sent to the owner's wallet, but the wallet address can be changed from the contract write section as it's an owner's privilege and the owner already added the correct liquidity address.

```
ftrace|funcSig
function addLiquidity(uint256 tokenAmount1, uint256 ethAmount1) private {
    // approve token transfer to cover all possible scenarios
    _approve(address(this), address(uniswapV2Router), tokenAmount1);

    // add the liquidity
    uniswapV2Router.addLiquidityETH{value: ethAmount1}{
        address(this),
        tokenAmount1,
        0, // slippage is unavoidable
        0, // slippage is unavoidable
        liquidityWallet,
        block.timestamp
    );
}
```

```
dividendTracker = new TDividendTracker();
liquidityWallet = owner();
IUniswapV2Router02 uniswapV2Router = IUniswapV
```

The addLiquidity function calls the uniswapV2Router.addLiquidityETH function with the address specified as owner() for acquiring the generated LP tokens from the DOGEBOT-BNB pool. As a result, over time the _owner address will accumulate a significant portion of LP tokens. If the _owner is an EOA(Externally Owned Account), mishandling of its private key can have devastating consequences to the project as a whole.

Recommendation:

We advise the address of the uniswapV2Router.addLiquidityETH function call to be replaced by the contract itself.

No maximum fee limits

```
ftrace|funcSig
function setBNBRewardFee(uint256 newFee1) external onlyOwner {
    BNBRewardsFee = newFee1;
    totalFees = BNBRewardsFee.add(liquidityFee);
}

ftrace|funcSig
function setLiquidityFee(uint256 newFee1) external onlyOwner {
    liquidityFee = newFee1;
    totalFees = BNBRewardsFee.add(liquidityFee);
}
```

Owner can change fees without any limitation.

Recommendation:

It's better to add a maximum fee limit validation.

Owner privileges

The owner can update v2 Router address.

The owner can exclude wallets from fees.

The owner can change the max transaction amount.

```
ftrace|funcSig
  function setMaxTxAmount(uint256 amount1) external onlyOwner {
    maxTransactionAmount = amount1 * 10**18;
}
```

The owner can change BNB reward and liquidity fee.

```
ftrace|funcSig
function setBNBRewardFee(uint256 newFee1) external onlyOwner {
    BNBRewardsFee = newFee1;
    totalFees = BNBRewardsFee.add(liquidityFee);
}

ftrace|funcSig
function setLiquidityFee(uint256 newFee1) external onlyOwner {
    liquidityFee = newFee1;
    totalFees = BNBRewardsFee.add(liquidityFee);
}
```

The owner can update the liquidity wallet.

```
ftrace|funcSig

function updateLiquidityWallet(address newLiquidityWallet1)

public
   onlyOwner

{
    require(
        newLiquidityWallet1 != liquidityWallet,
        "The liquidity wallet is already this address"
    );
    excludeFromFees(newLiquidityWallet1, true);
    emit LiquidityWalletUpdated(newLiquidityWallet1, liquidityWallet1);
    liquidityWallet = newLiquidityWallet1;
}
```

The owner can update the claim wait.

* The owner can exclude wallets from dividend.

```
ftrace|funcSig
function excludeFromDividends(address account1) external onlyOwner {
    require(!excludedFromDividends[account1]);
    excludedFromDividends[account1] = true;

    _setBalance(account1, 0);
    tokenHoldersMap.remove(account1);

emit ExcludeFromDividends(account1);
}
```

❖ The owner can change the token swap trigger amount.

```
ftrace|funcSig
  function setSwapTokensAtAmount(uint256 amount ) external onlyOwner {
     swapTokensAtAmount = amount * 10**18;
}
```

Audit conclusion

While conducting the audit of the DOGEBOT smart contract, it was observed that there is nothing alarming with the code and it only contains informational concerns.