



Building the Futuristic **Blockchain Ecosystem**

# SECURITY AUDIT REPORT

TOKYO DOGE

# TOKEN OVERVIEW

## Risk Findings

Severity	Found
● High	3
● Medium	0
● Low	0
● Informational	0

## Centralization Risks

Owner Privileges	Description
● Can Owner Set Taxes >25% ?	No, fees cannot exceed 24%
● Owner needs to enable trading ?	Yes, owner needs to enable trades
● Can Owner Disable Trades ?	Not Detected
● Can Owner Mint ?	Not Detected
● Can Owner Blacklist ?	Not Detected
● Can Owner set Max Wallet amount ?	Not Detected
● Can Owner Set Max TX amount ?	Not Detected

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# OVERVIEW

The Expelee team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analysed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks. According to the smart contract audit:

<b>Audit Result</b>	<b>Passed</b>
<b>KYC Verification</b>	<b>No</b>
<b>Audit Date</b>	<b>5 June 2023</b>

# CONTRACT DETAILS

Token Name: Tokyo Doge

Symbol: Tokyodoge

Network: Binance smart chain

Language: Solidity

Decimals: 9

Token Type: BEP20

Checksum:

1373f22b8c5f4e279b234280ee3c1cc9c35b87d4

Contract Address: 0x22664443E849fc39F450f3F6996b159116834263

Total Supply: 10,000,000,000

Owner's Wallet: 0xd965B62C8dC4e20dCF55094b8d1c49bc74120fAa

Deployer's Wallet:

0xd965B62C8dC4e20dCF55094b8d1c49bc74120fAa

# AUDIT METHODOLOGY

## Audit Details

Our comprehensive audit report provides a full overview of the audited system's architecture, smart contract codebase, and details on any vulnerabilities found within the system.

## Audit Goals

The audit goal is to ensure that the project is built to protect investors and users, preventing potentially catastrophic vulnerabilities after launch, that lead to scams and rugpulls.

## Code Quality

Our analysis includes both automatic tests and manual code analysis for the following aspects:

- Exploits
- Back-doors
- Vulnerability
- Accuracy
- Readability

## Tools

- DE
- Open Zeppelin
- Code Analyzer
- Solidity Code
- Compiler
- Hardhat

# VULNERABILITY CHECKS

Design Logic	Passed
Compiler warnings	Passed
Private user data leaks	Passed
Timestamps dependence	Passed
Integer overflow and underflow	Passed
Race conditions & reentrancy. Cross-function race conditions	Passed
Possible delays in data delivery	Passed
Oracle calls	Passed
Front Running	Passed
DoS with Revert	Passed
DoS with block gas limit	Passed
Methods execution permissions	Passed
Economy model	Passed
Impact of the exchange rate on the logic	Passed
Malicious event log	Passed
Scoping and declarations	Passed
Uninitialized storage pointers	Passed
Arithmetic accuracy	Passed
Cross-function race conditions	Passed
Safe Zepplin module	Passed

# RISK CLASSIFICATION

When performing smart contract audits, our specialists look for known vulnerabilities as well as logical and access control issues within the code. The exploitation of these issues by malicious actors may cause serious financial damage to projects that failed to get an audit in time. We categorize these vulnerabilities by the following levels:

## High Risk

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

## Medium Risk

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

## Low Risk

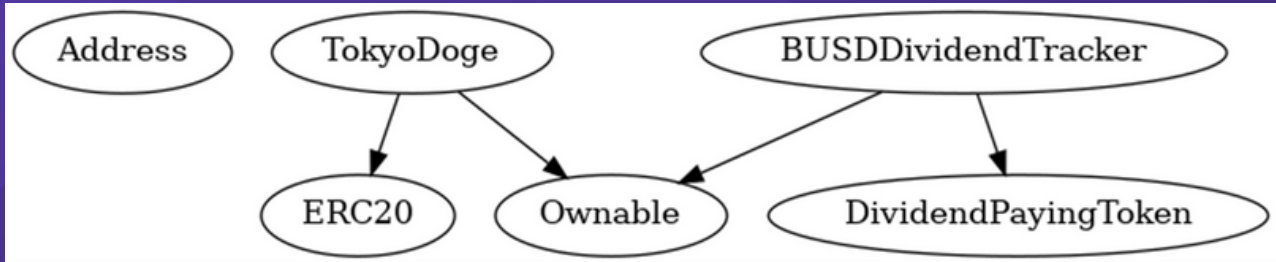
Issues on this level are minor details and warnings that can remain unfixed.

## Informational

Issues on this level are minor details and warnings that can remain unfixed.



# INHERITANCE TREES



# FUNCTION DETAILS

```

| Contract | Type | Bases | | |
|-----|-----|-----|-----|-----|
| L | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
|
|
| **Address** | Library | |||
| L | sendValue | Internal | 🔒 | ● | |
|
|
| **TokyoDoge** | Implementation | ERC20, Ownable ||| |
| L | <Constructor> | Public | ! | ● | ERC20 |
| L | <Receive Ether> | External | ! | 🟢 | [NO ! |
| L | updateDividendTracker | Public | ! | ● | onlyOwner |
| L | processDividendTracker | External | ! | ● | [NO ! |
| L | claim | External | ! | ● | [NO ! |
| L | rescueBEP20Tokens | External | ! | ● | onlyOwner |
| L | forceSend | External | ! | ● | [NO ! |
| L | excludeFromFees | Public | ! | ● | onlyOwner |
| L | excludeMultipleAccountsFromFees | Public | ! | ● | onlyOwner |
| L | excludeFromDividends | External | ! | ● | onlyOwner |
| L | setBuyTaxes | External | ! | ● | onlyOwner |
| L | setSellTaxes | External | ! | ● | onlyOwner |
| L | setMarketingWallet | External | ! | ● | onlyOwner |
| L | setSwapTokensAtAmount | External | ! | ● | onlyOwner |
| L | setSwapEnabled | External | ! | ● | onlyOwner |
| L | EnableTrading | External | ! | ● | onlyOwner |
| L | setAntiBotBlocks | External | ! | ● | onlyOwner |
| L | setMinBalanceForDividends | External | ! | ● | onlyOwner |
| L | _setAutomatedMarketMakerPair | Private | 🔒 | ● | |
| L | setGasForProcessing | External | ! | ● | onlyOwner |
| L | setClaimWait | External | ! | ● | onlyOwner |
| L | getClaimWait | External | ! | | [NO ! |
| L | getTotalDividendsDistributed | External | ! | | [NO ! |
| L | isExcludedFromFees | Public | ! | | [NO ! |
| L | withdrawableDividendOf | Public | ! | | [NO ! |
| L | getCurrentRewardToken | External | ! | | [NO ! |
| L | dividendTokenBalanceOf | Public | ! | | [NO ! |
| L | getAccountDividendsInfo | External | ! | | [NO ! |
| L | getAccountDividendsInfoAtIndex | External | ! | | [NO ! |
| L | getLastProcessedIndex | External | ! | | [NO ! |
| L | getNumberOfDividendTokenHolders | External | ! | | [NO ! |
| L | _transfer | Internal | 🔒 | ● | |
| L | swapAndLiquify | Private | 🔒 | ● | |
| L | swapTokensForBNB | Private | 🔒 | ● | |
|
|
| **BUSDDividendTracker** | Implementation | Ownable, DividendPayingToken ||| |
| L | <Constructor> | Public | ! | ● | DividendPayingToken |
| L | _transfer | Internal | 🔒 | | |

```

# FUNCTION DETAILS

```

| L | setMinBalanceForDividends | External ! | ● | onlyOwner |
| L | excludeFromDividends | External ! | ● | onlyOwner |
| L | updateClaimWait | External ! | ● | onlyOwner |
| L | getLastProcessedIndex | External ! | | NO ! |
| L | getNumberOfTokenHolders | External ! | | NO ! |
| L | getCurrentRewardToken | External ! | | NO ! |
| L | getAccount | Public ! | | NO ! |
| L | getAccountAtIndex | Public ! | | NO ! |
| L | canAutoClaim | Private 🔒 | | |
| L | setBalance | Public ! | ● | onlyOwner |
| L | process | Public ! | ● | NO ! |
| L | processAccount | Public ! | ● | onlyOwner |

```

## ### Legend

Symbol	Meaning
!-----!	
●	Function can modify state
💰	Function is payable

# TESTNET VERSION

Adding Liquidity



Tx:

<https://testnet.bscscan.com/tx/0x99ac92373d199984f679902eff8eba667b56049aeda53e4fa6e0d79ac3f66a41>

=====

Buying from a fee excluded wallet



Tx (0% tax):

<https://testnet.bscscan.com/tx/0xfb882c5f74b3d1c52f0652545b915b28f91ed01855bc27a48770eab96f4a8695>

=====

Selling from a fee excluded wallet



Tx (0% tax):

<https://testnet.bscscan.com/tx/0xfc8103158d124000fb585cc1e844014ed5570f31d4b6f110232856a615db43c2>

=====

Transferring using a fee excluded wallet



Tx (0% tax):

<https://testnet.bscscan.com/tx/0xebacf468e23ed2eaf367e7657938b6974112ff945e818e0d0c85e688ce0009bb>

=====

Buying from a regular wallet



Tx (0-12% tax):

<https://testnet.bscscan.com/tx/0x61d0eae4401a3fb16db013f879d9fae2742ebcdfcf1e5ef4f5ad24b12dce8f1e>

=====

Selling from a regular wallet



Tx (0-12% tax):

<https://testnet.bscscan.com/tx/0x697b6a798fe7c4f32e256bf9055e78d13df956d8f13997e1c8a1ce65c09e1a49>

# TESTNET VERSION

Transferring a regular wallet 

Tx (0%):

<https://testnet.bscscan.com/tx/0x80e17c16f100deb70d3ee4c78e3909abc3d94d3df71fa13b0812d265d3746b92>

=====

Internal swap (marketing BNB + Auto-liquidity) 

Tx:

<https://testnet.bscscan.com/tx/0xa44edd5d0d76c0652f0127272f745953bf26ebca2298005a28a67bc5f15a99ce>

# MANUAL REVIEW

## Severity Criteria

Expelee assesses the severity of disclosed vulnerabilities according to methodology based on OWASP standards.

Vulnerabilities are divided into three primary risk categories:

High

Medium

Low

High-level considerations for vulnerabilities span the following key areas when conducting assessments:

- Malicious input handling
- Escalation of privileges
- Arithmetic
- Gas use

Overall Risk Severity				
Impact	HIGH	Medium	High	Critical
	MEDIUM	Low	Medium	High
	LOW	Note	Low	Medium
		LOW	MEDIUM	HIGH
	Likelihood			

# HIGH RISK FINDING

## Setting internal swap threshold to 0

**Severity : High**

**Category: Data validation**

**Status: Open**

### Overview

Setting swapTokensAtAmount to 0 can disable sell and transfers for non privileged wallets. This is because internal swap is performed even in case of swapTokensAtAmount being equal to 0.

```
function setSwapTokensAtAmount(uint256 amount) external
onlyOwner {
    require(amount < totalSupply() / 100, "Swap Threshold should be
less than 1% of total supply");
    swapTokensAtAmount = amount;
}
```

### Suggestion:

to mitigate this issue, ensure that swapTokensAtAmount is always greater than a 0.

```
function setSwapTokensAtAmount(uint256 amount) external
onlyOwner {
    require(amount < totalSupply() / 100, "Swap Threshold should be
less than 1% of total supply");
    require(amount > totalSupply() / 1000000, "Swap Threshold
should be more than .0001% of total supply");
    swapTokensAtAmount = amount;
}
```



# HIGH RISK FINDING

**Enabling trades is not guaranteed**

**Severity : High**

**Category: Centralization**

**Status: Open**

## Overview

Owner must enable trades for investors manually. If trades remain disabled, holders won't be able to trade their tokens.

```
function EnableTrading() external onlyOwner {  
  require(!tradingEnabled, "Trading is already enabled");  
  tradingEnabled = true;  
  startTradingBlock = block.number;  
}
```

## Suggestion:

to mitigate this issue there are several options:

- Enable trades before end of presale
- Transfer ownership to a trusted 3rd party to guarantee enable of trades



# HIGH RISK FINDING

## Changing dividend tracker

**Severity : High**

**Category: Logical**

**Status: Open**

### Overview

Owner is able to update dividend tracker. Setting dividend tracker to an invalid address can disable buy/sell/transfers for all holders (owner and whitelisted wallets included)

```
function updateDividendTracker(address newAddress) public  
onlyOwner {  
    BUSDDividendTracker newDividendTracker =  
    BUSDDividendTracker(payable(newAddress));
```

```
newDividendTracker.excludeFromDividends(address(newDividendTracker), true);  
newDividendTracker.excludeFromDividends(address(this), true);  
newDividendTracker.excludeFromDividends(owner(), true);  
newDividendTracker.excludeFromDividends(address(router), true);  
    dividendTracker = newDividendTracker;  
}
```

### Suggestion:

to mitigate this issue, ensure that dividend tracker is immutable, this can be achieved by deleting updateDividendTracker function.

# ABOUT EXPELEE

Expelee is a product-based aspirational Web3 start-up. Coping up with numerous solutions for blockchain security and constructing a Web3 ecosystem from deal making platform to developer hosting open platform, while also developing our own commercial and sustainable blockchain.

 [www.expelee.com](http://www.expelee.com)



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# expelee

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The logo for Expelee, featuring the word "expelee" in a stylized font. The "ex" is in white, and "pelee" is in orange. The letters are bold and modern.

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