



# Smart Contract Audit

FOR

## PepeShiba

DATED : 6 May 23'



# AUDIT SUMMARY

**Project name - PepeShiba**

**Date:** 6 May, 2023

**Scope of Audit-** Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

**Audit Status: Passed**

## Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	1	0
Acknowledged	0	0	0	0	0
Resolved	0	1	0	0	0



# USED TOOLS

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## Tools:

### 1- Manual Review:

A line by line code review has been performed by audit ace team.

**2- BSC Test Network:** All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

### 3- Slither :

The code has undergone static analysis using Slither.

### Testnet version:

The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:

<https://testnet.bscscan.com/token/0xa41a57a8518E59b4F3E1805A3916461E11f577BC>

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# Token Information

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**Token Name :** PepeShiba

**Token Symbol:** \$PSHIB

**Decimals:** 9

**Token Supply:** 1,000,000,000

**Token Address:**

0xB6d5C34B37C9C9056720657e5C9B477C643d98Fe

**Checksum:**

80b4b14b6f2ec91de8765d5ba8fe52cf73411863

**Owner:** 0x485439033F4C95aE178917fc9506C43136E7Bf3f

**Deployer:** 0x485439033F4C95aE178917fc9506C43136E7Bf3f

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# TOKEN OVERVIEW

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**Fees:**

Buy Fees: 0%

Sell Fees: 0%

Transfer Fees: 0%

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**Fees Privilege:** None

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**Ownership:** Owned

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**Minting:** No mint function

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**Max Tx Amount/ Max Wallet Amount:** No

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**Blacklist:** No

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**Other Privileges:** none

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# AUDIT METHODOLOGY

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The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

# VULNERABILITY CHECKLIST



Return values of low-level calls



**Gasless Send**



Private modifier



Using block.timestamp



Multiple Sends



Re-entrancy



Using Suicide



Tautology or contradiction



Gas Limit and Loops



Timestamp Dependence



Address hardcoded



Revert/require functions



Exception Disorder



Use of tx.origin



Using inline assembly



Integer overflow/underflow



Divide before multiply



Dangerous strict equalities



Missing Zero Address Validation



Using SHA3



Compiler version not fixed



Using throw



# CLASSIFICATION OF RISK

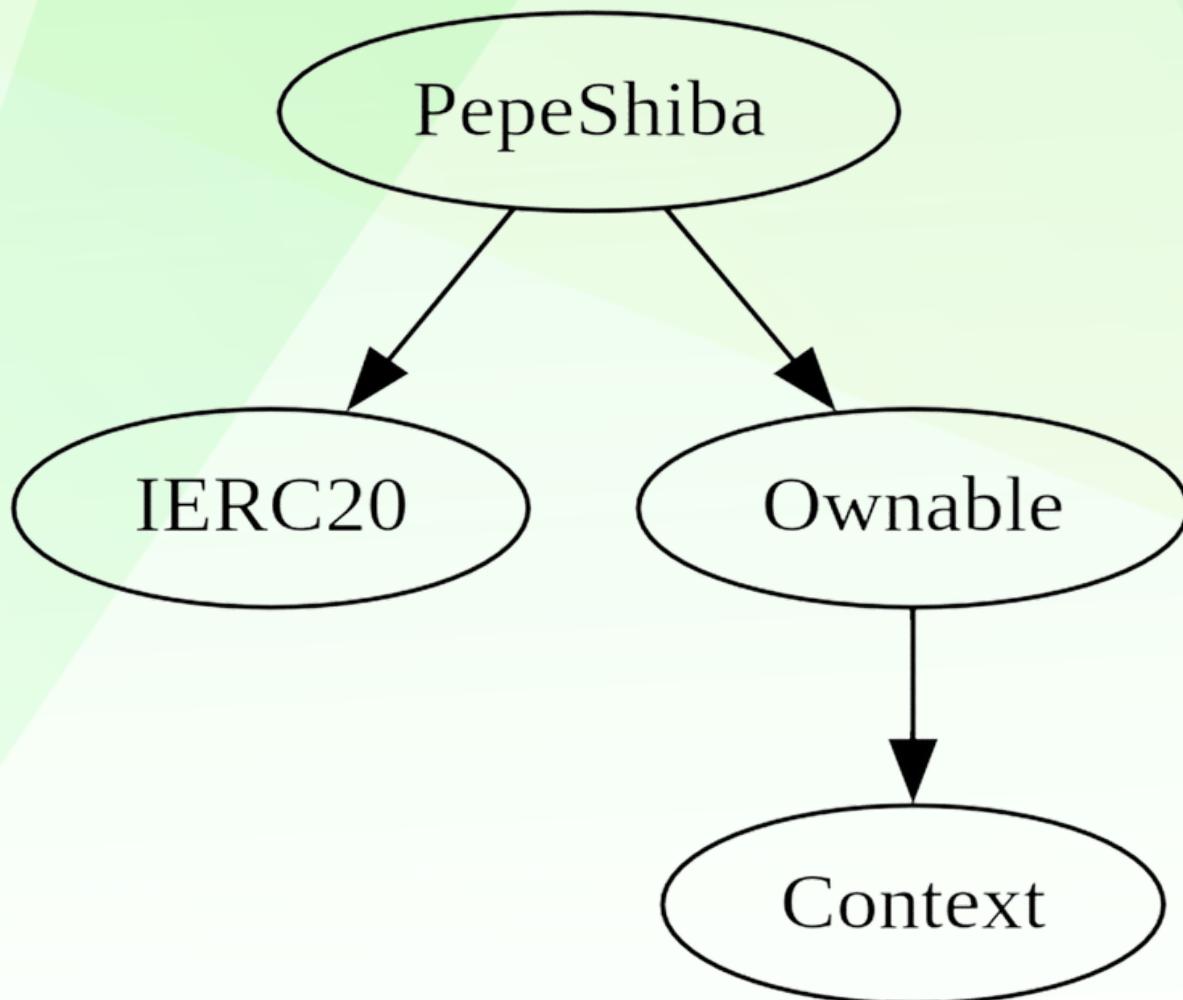
Severity	Description
◆ Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ Gas Optimization / Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

## Findings

Severity	Found
◆ Critical	0
◆ High-Risk	1
◆ Medium-Risk	0
◆ Low-Risk	1
◆ Gas Optimization / Suggestions	0

# INHERITANCE TREE

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## POINTS TO NOTE

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- Owner is not able to set buy/sell/transfer taxes (0% all)
- Owner is not able to set a max buy/transfer/wallet/sell amount
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner is not able to mint new tokens
- Owner must enable trades for holders to be able to trade

# CONTRACT ASSESSMENT

Contract	Type	Bases			
L **Function Name**   **Visibility**   **Mutability**   **Modifiers**					
**PepeShiba**	Implementation	IERC20, Ownable			
L <Constructor>	Public !	● NO !			
L <Receive Ether>	External !	● NO !			
L totalSupply	External !	NO !			
L name	Public !	NO !			
L symbol	Public !	NO !			
L decimals	Public !	NO !			
L balanceOf	Public !	NO !			
L allowance	External !	NO !			
L approve	Public !	● NO !			
L _approve	Internal 🔒	●			
L approveMax	External !	● NO !			
L transfer	External !	● NO !			
L transferFrom	External !	● NO !			
L _transferFrom	Internal 🔒	●			
L _basicTransfer	Internal 🔒	●			
L enableTrading	External !	● onlyOwner			
L setAuthorizedWallets	External !	● onlyOwner			
L rescueBNB	External !	● onlyOwner			
**Ownable**   Implementation   Context					
L <Constructor>	Public !	● NO !			
L owner	Public !	NO !			
L _checkOwner	Internal 🔒				
L renounceOwnership	Public !	● onlyOwner			
L transferOwnership	Public !	● onlyOwner			
L _transferOwnership	Internal 🔒	●			
**Context**   Implementation					
L _msgSender	Internal 🔒				
L _msgData	Internal 🔒				
**IERC20**   Interface					
L totalSupply	External !	NO !			
L balanceOf	External !	NO !			
L transfer	External !	● NO !			
L allowance	External !	NO !			
L approve	External !	● NO !			
L transferFrom	External !	● NO !			



# CONTRACT ASSESSMENT

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## Legend

Symbol	Meaning
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●   Function can modify state	
\\$   Function is payable	



# STATIC ANALYSIS

```
PepeShiba._approve(address,address,uint256).owner (contracts/Token.sol#291) shadows:  
  - Ownable.owner() (contracts/Token.sol#173-175) (function)
```

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing>

Different versions of Solidity are used:

- Version used: ['^0.8.0', '^0.8.17']
- ^0.8.0 (contracts/Token.sol#8)
- ^0.8.0 (contracts/Token.sol#37)
- ^0.8.0 (contracts/Token.sol#131)
- ^0.8.17 (contracts/Token.sol#224)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#different-pragma-directives-are-used>

Context.\_msgData() (contracts/Token.sol#25-27) is never used and should be removed

PepeShiba.\_approve(address,address,uint256) (contracts/Token.sol#290-300) is never used and should be removed

PepeShiba.\_basicTransfer(address,address,uint256) (contracts/Token.sol#347-358) is never used and should be removed

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code>

Pragma version^0.8.0 (contracts/Token.sol#8) allows old versions

Pragma version^0.8.0 (contracts/Token.sol#37) allows old versions

Pragma version^0.8.0 (contracts/Token.sol#131) allows old versions

Pragma version^0.8.17 (contracts/Token.sol#224) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16

solc-0.8.19 is not recommended for deployment

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity>

Parameter PepeShiba.setAuthorizedWallets(address,bool).\_wallet (contracts/Token.sol#366) is not in mixedCase

Parameter PepeShiba.setAuthorizedWallets(address,bool).\_status (contracts/Token.sol#367) is not in mixedCase

Constant PepeShiba.\_name (contracts/Token.sol#230) is not in UPPER\_CASE\_WITH\_UNDERSCORES

Constant PepeShiba.\_symbol (contracts/Token.sol#231) is not in UPPER\_CASE\_WITH\_UNDERSCORES

Constant PepeShiba.\_decimals (contracts/Token.sol#232) is not in UPPER\_CASE\_WITH\_UNDERSCORES

Variable PepeShiba.\_totalSupply (contracts/Token.sol#234) is not in mixedCase

Variable PepeShiba.\_balances (contracts/Token.sol#236) is not in mixedCase

Variable PepeShiba.\_allowances (contracts/Token.sol#237) is not in mixedCase

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions>

PepeShiba.slitherConstructorVariables() (contracts/Token.sol#229-378) uses literals with too many digits:

- \_totalSupply = 1000000000 \* (10 \*\* \_decimals) (contracts/Token.sol#234)

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits>

PepeShiba.\_totalSupply (contracts/Token.sol#234) should be constant

Reference: <https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant>

**Result => A static analysis of contract's source code has been performed using slither,  
No major issues were found in the output**



# FUNCTIONAL TESTING

## Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

### 1- Adding liquidity (**passed**):

<https://testnet.bscscan.com/tx/0x7124d26e644ce1ee2dc2469a9e612946eee0dc19e12dddf0ba47b9eb5181105a>

### 2- Buying when excluded (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xf50e16bec25f6e27fbc88bb2883d66464d0046515d42ac72cea3c5ad44d7d345>

### 3- Selling when excluded (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x7574ac712291503fe380dc2cf0978369615f73fea66b6b1fa15a311ebfe1b73a>

### 4- Transferring when excluded from fees (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xca355d5b32ece04495ae942e521faeea25730dc2df9bbc02a67f084fa80c5cc0>

### 5- Buying when not excluded from fees (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x350f083df5f98e9bb7175a71904e0c2e3012386df2761d0222acd34a6f79fb12>

### 6- Selling when not excluded from fees (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xa198e355ce095e6489dd9f8afc486c3cc4e9398346fb5fc27fe0552721f09b9a>



# FUNCTIONAL TESTING

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**7- Transferring when not excluded from fees (0% tax) (passed):**

<https://testnet.bscscan.com/tx/0x1bc001a2e7838499b74ddc83b1df4c7529d7e3db1181540b467df62050ce1bc9>



# MANUAL TESTING

## Centralization – Trades must be enabled

Severity: **High**

function: enableTrading

Status: **Resolved (Contract is owned by Pinksale safu developer)**

### Overview:

The smart contract owner must enable trades for holders. If trading remain disabled, no one would be able to buy/sell/transfer tokens.

```
function enableTrading() external onlyOwner {  
    require(!isTradeEnabled, "Trading already enabled");  
    isTradeEnabled = true;
```

### Suggestion

To mitigate this centralization issue, we propose the following options:

1. Renounce Ownership: Consider relinquishing control of the smart contract by renouncing ownership. This would remove the ability for a single entity to manipulate the router, reducing centralization risks.
- Multi-signature Wallet: Transfer ownership to a multi-signature wallet. This would require multiple approvals for any changes to the mainRouter, adding an additional layer of security and reducing the centralization risk.

Transfer ownership to a trusted and valid 3<sup>rd</sup> party in order to guarantee enabling of the trades (**applied**)



# MANUAL TESTING

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## Logical – Trades must be enabled

Severity: **Low**

**function:** \_transferFrom

**Status:** Not Resolved

**Overview:**

Authorized wallets are not able to buy tokens before enabling of the trades

```
function _transferFrom(  
    address sender,  
    address recipient,  
    uint256 amount  
) internal returns (bool) {  
    if (!isTradeEnabled) require(isAuthorized[sender], "Trading disabled");  
  
    require(_balances[sender] >= amount, "Insufficient Balance");  
    _balances[sender] = _balances[sender] - amount;  
  
    _balances[recipient] = _balances[recipient] + amount;  
  
    emit Transfer(sender, recipient, amount);  
    return true;
```

### Suggestion

To mitigate this logical issue, check if sender or recipient is Authorized or not.  
Authorized, allow transfer.



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