KISHIELD

Security Audit

WhaleClub Token

April 17, 2022

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Audit Summary

This report has been prepared for WhaleClub Token on the Binance Chain network. KISHIELD provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.

Project Overview

Token Summary

Parameter	Result
Address	0x5A68c4fa4aA6bDf2632461BC75aef5A2EF2d9dAe
Name	WhaleClub
Token Tracker	WhaleClub (WHALE)
Decimals	5
Supply	325,000
Platform	Binance Chain
compiler	v0.7.6+commit.7338295f
Optimization	Yes with 200 runs
LicenseType	Unlicensed
Language	Solidity
Codebase	https://testnet.bscscan.com/address/0x5A68c4fa4aA6bDf2632461BC75aef5A2EF2d9dAe
Url	https://whale-club.com

Main Contract Assessed

Name	Contract	Live
WhaleClub	0x5A68c4fa4aA6bDf2632461BC75aef5A2EF2d9dAe	Yes

Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	Low / No Risk
Code With No Effects	Complete	Complete	Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	Low / No Risk
Hash Collisions With Multiple Variable Length Arguments	Complete	Complete	Low / No Risk
Unexpected Ether balance	Complete	Complete	Low / No Risk
Presence of unused variables	Complete	Complete	Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	Low / No Risk
Typographical Error	Complete	Complete	Low / No Risk
DoS With Block Gas Limit	Complete	Complete	Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	Low / No Risk
Insufficient Gas Griefing	Complete	Complete	Low / No Risk
Incorrect Inheritance Order	Complete	Complete	Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	Low / No Risk
Requirement Violation	Complete	Complete	Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	Low / No Risk
Weak Sources of Randomness from Chain Attributes	Complete	Complete	Low / No Risk

Vulnerability	Automatic Scan	Manual Scan	Result
Authorization through tx.origin	Complete	Complete	Low / No Risk
Delegatecall to Untrusted Callee	Complete	Complete	Low / No Risk
Use of Deprecated Solidity Functions	Complete	Complete	Low / No Risk
Assert Violation	Complete	Complete	Low / No Risk
Reentrancy	Complete	Complete	Low / No Risk
Unprotected SELFDESTRUCT Instruction	Complete	Complete	Low / No Risk
Unprotected Ether Withdrawal	Complete	Complete	Low / No Risk
Unchecked Call Return Value	Complete	Complete	Low / No Risk
Outdated Compiler Version	Complete	Complete	Low / No Risk
Integer Overflow and Underflow	Complete	Complete	Low / No Risk
Function Default Visibility	Complete	Complete	Low / No Risk

Contract Ownership

The contract ownership of WhaleClub is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0xe7Ff1aE40aa5aE2608469c99a291e81F6E4548c1 which can be viewed from:
HERE

The owner wallet has the power to call the functions displayed on the priviliged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

Important Notes To The Users:

- The owner cannot mint tokens after intial deployment.
- The owner cannot stop Trading.
- The owner cannot change the fees.
- The owner cannot change the min tx amount.
- Once the owner renounces ownership of the contract, none of the following are applicable.
- The owner can swap the tokens inside the contract and send BNB to clubFundReceiver wallet.
- The owner can turn on/off the rebase & AutoAddLiquidity mechanisms.
- The owner can add/remove addresses from fees and rewards.
- The owner can change the distribution criteria minimum period, distribution, and distributorGas.
- The owner can add/remove multiple WALLETS from the blacklist in the function setBlocklists.
- No high-risk Exploits/Vulnerabilities Were Found in token Source Code other than owner priviliges.

Audit Passed

Findings Summary

Classification of Issues

Severity	Description
High	Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, or impairment of the contract and its functions. Issues under this classification are recommended to be fixed with utmost urgency
Medium	Bugs or issues with that may be subject to exploit, though their impact is somewhat limited.Issues under this classification are recommended to be fixed as soon as possible.
Low	Effects are minimal in isolation and do not pose a significant danger to the project or its users. Issues under this classification are recommended to be fixed nonetheless.
Info	Consistency, syntax or style best practices. Generally pose a negligible level of risk, if any.

Findings

Severity	Found
High	0
Medium	0
Low	1
Info	3
Total	4

Findings

Public function that could be declared external

ID	Severity	Contract	Function
01	Informational	WhaleClub	Functions getLiquidityBacking, renounceOwnership, transferOwnership

Description

Gas Optimization. Public function that could be declared external

Recommendation

Public functions that are never called by the contract should be declared external to save gas.

Variables could be declared as constant

ID	Severity	Contract	Function
02	Informational	WhaleClub	variables feeDenominator, DEAD, ZERO, USDTDividend, autoLiquidity, clubFund, sellFee, swapEnabled

Description

Gas Optimization. Variables that are never changed could be declared as constant.

Recommendation

We recommend declaring those variables as constant.

Assigment with no effects

ID	Severity	Contract	Function
03	Informational	WhaleClub	inSwap variable

Description

Bools variables in solidity are set to false by default.

Recommendation

We recommend deleting the initilization of the boolean variable to false

Division before Multiplication

ID	Severity	Contract	Function
04	Low	WhaleClub	function rebase(), takeFee(), getLiquidityBacking()

Description

Precision Loss. 'uint256 times = deltaTime.div(10 minutes); => uint256 epoch = times.mul(10);', 'gonAmount.div(feeDenominator).mul(autoBurn)', 'uint256 liquidityBalance = _gonBalances[pair].div(_gonsPerFragment);' Division before multiplication can result in truncation and less accurate results

Recommendation

Multiplication should be performed before division to not lose precision.

Priviliged Functions (onlyOwner)

Function Name	Parameters	Visibility
renounceOwnership	none	public
transferOwnership	address newOwner	public
withdrawAllToClubFund	none	external
setAutoRebase	bool _flag	external
setAutoAddLiquidity	bool _flag	external
setIsDividendExempt	address holder, bool exempt	external
setDistributionCriteria	uint256 _minPeriod, uint256 _minDistribution	external
setDistributorSettings	uint256 gas	external
setFeeReceivers	address _clubFundReceiver	external
setWhitelist	address _addr	external
setBotBlacklist	address _botAddress, bool _flag	external
setBlocklists	calldata addrs, bool _flag	external
setLP	address _address	external

Statistics

Liquidity Info

Parameter	Result
Pair Address	0x42EC9dFB514cc0B3dC1Eed280b6aF2C4974c55f0
WHALE Reserves	0.00 WHALE
BNB Reserves	0.00 BNB
Liquidity Value	$0 USD

Token (WHALE) Holders Info

Parameter	Result
WHALE Percentage Burnt	0.00%
WHALE Amount Burnt	0 WHALE
Top 10 Percentage Own	100.00%
Top 10 Amount Owned	325,000 WHALE
Top 10 Aprox Value	$NaN USD

LP (WHALE/BNB) Holders Info

Parameter	Result
WHALE/BNB % Burnt	0.00%
WHALE/BNB Amount Burnt	0 WHALE
Top 10 Percentage Owned	0.00%
Top 10 Amount Owned	0 WHALE
Locked Tokens Percentage	0.00%
Locked Tokens Amount	0 WHALE

* All the data diplayed above was taken on-chain at block 17031783
* The tokens on industry-standard burn wallets are not included on the top 10 wallets calculations

Liquidity Ownership

The token does not have liquidity at the moment of the audit, block 17031783

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