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Security Audit

Safu Web3 Token

April 12, 2022

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Audit Summary

This report has been prepared for Safu Web3 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	0x16561774618a9c190c41f3b38fd4ae0468f66293
Name	Safu Web3
Token Tracker	Safu Web3 (SafuWeb3)
Decimals	18
Supply	1,000,000
Platform	Binance Chain
compiler	v0.6.12+commit.27d51765
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://bscscan.com/address/0x16561774618a9c190c41f3b38fd4ae0468f66293
Url	https://safuweb3.com/

Main Contract Assessed

Name	Contract	Live
Safu Web3	0x16561774618a9c190c41f3b38fd4ae0468f66293	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

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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 Safu Web3 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 0xfE3ea2038Ea959CE00C7Da34120d9b0Ed007b54F 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.

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Important Notes To The Users:

- The owner cannot mint tokens after intial deployment.

- The transfer function is implemented correctly.

- The owner cannot stop Trading.

- The owner cannot change the max tx amount.

- The owner cannot change the fees amount.

- rebaseEnabled and liquiditySwapEnabled are by default false at deployment time.

- rebase every 15 minutes and auto liquidity every 30 minutes.

- Once the owner renounces ownership of the contract, none of the following are applicable.

- Owner can withdraw all tokens from the contract to the treasuryReceiver address.

- Owner can enable/disable autoRebase and AutoAddLiquidity

- Owner can add and remove contracts from the bot blacklist.

- Owner can set wallets for fee exempt in setWhitelist function.

- No high-risk Exploits/Vulnerabilities Were Found in token Source Code.

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	4
Total	5

Findings

Public function that could be declared external

ID	Severity	Contract	Function
01	🟣 Informational	Safu Web3	Functions renounceOwnership, transferOwnership, getLiquidityBacking

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.

Too many digits

ID	Severity	Contract	Function
02	🟣 Informational	Safu Web3	Variables initialFragments, MAX_SUPPLY

Description

Literals with many digits are difficult to read and review.

Recommendation

Make use of scientific notation, use underscores, and/or use ether suffix.

Division before Multiplication

ID	Severity	Contract	Function
03	🟡 Low	Safu Web3	function takeFee()

Description

Precision Loss. 'feeAmount = gonAmount.div(feeDenominator).mul(_totalFee)' Division before multiplication can result in truncation and less accurate results

Recommendation

Multiplication should be performed before division to not lose precision.

Code with no effects

ID	Severity	Contract	Function
04	🟣 Informational	Safu Web3	DECIMALS variable

Description

Variable is not used by the contract. The decimals are set to 18 on the ERC20Detailed constructor.

Recommendation

We recommend deleting or making use of the variable

Assigment with no effects

ID	Severity	Contract	Function
05	🟣 Informational	Safu Web3	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

Priviliged Functions (onlyOwner)

Function Name	Parameters	Visibility
renounceOwnership	none	public
transferOwnership	address newOwner	public
transfer	none	external
transferFrom	none	external
addLiquidity	none	internal
swapBack	none	internal
withdrawAllToTreasury	none	external
withdrawAllToTreasury	none	external
setAutoRebase	bool _flag	external
setAutoAddLiquidity	bool _flag	external
setFeesEnabled	bool _flag	external
setFeeReceivers	address _autoLiquidityReceiver, address _treasuryReceiver, address _insuranceFundReceiver, address _burnReceiver	external
setWhitelist	address _addr	external
setBotBlacklist	address _botAddress, bool _flag	external
setPair	address _address	external

Statistics

Liquidity Info

Parameter	Result
Pair Address	0xe92bFDAA1F2Acf977451E4487856438104AFa427
SafuWeb3 Reserves	0.00 SafuWeb3
BNB Reserves	0.00 BNB
Liquidity Value	$0 USD

Token (SafuWeb3) Holders Info

Parameter	Result
SafuWeb3 Percentage Burnt	0.00%
SafuWeb3 Amount Burnt	0 SafuWeb3
Top 10 Percentage Own	100.00%
Top 10 Amount Owned	1,000,000 SafuWeb3
Top 10 Aprox Value	$NaN USD

LP (SafuWeb3/BNB) Holders Info

Parameter	Result
SafuWeb3/BNB % Burnt	0.00%
SafuWeb3/BNB Amount Burnt	0 SafuWeb3
Top 10 Percentage Owned	0.00%
Top 10 Amount Owned	0 SafuWeb3
Locked Tokens Percentage	0.00%
Locked Tokens Amount	0 SafuWeb3

* All the data diplayed above was taken on-chain at block 16891709
* 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 16891709

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