RugFreeCoins Audit

SAFUMAX Token Audit

Smart Contract Security Audit

August 18, 2021

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Audit details

Audited project

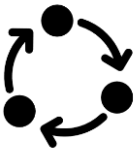
SAFUMAX Token

Contract Address

0x1B79A9960ceB3c56783FEdA17b3FD220FA4e99aa

Client contact

SAFUMAX Token Team



Blockchain

Binance smart chain

Project website

https://safumax.info/

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 SAFUMAX to perform an audit of the smart contract.

https://bscscan.com/address/0x1B79A9960ceB3c56783FEdA17b3FD220FA4e99aa

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

SAFUMAX is a token built on the Binance Smart Chain, and a 100% decentralized community token, investors have full control of their investments. Each transaction, purchase and sales incur a 13% fee.

SAFUMAX improves on the popular Everise protocol with a new suite of innovations that will help increase returns for investors, which will be exchanging 6% of the tax for Bnb buys back from the supply every minute and burn all tokens bought automatically.

Also, investors can accumulate more $SAFUMAX by just holding as the smart contract automatically distributes 3% of every transaction tax amongst holders.

Tokenomics

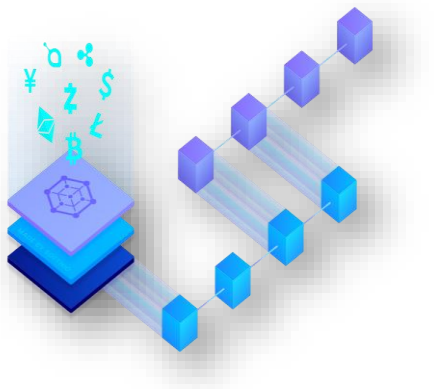
13% tax fee when buying and selling

- 6% of every trade will be allocated to buyback tokens and burn.
- 3% of every trade goes to holders pockets in tokens.
- 3% of every trade goes to the marketing wallet.
- 1% of every trade goes to the development wallet.

Roadmap

QI - Launch

- Social Community creation
- Contract deployment
- Website launch
- Contract Quick audit
- Airdrop event
- Marketing campaign
- Community weekly rewards
- Contract ownership renounced
- Lock LP with Trustswap
- SAFU FAIR AUDIT REPORT
- Fair launch on Pancakeswap
- X5 more marketing



Q2 - Growth

- CoinMarketcap listing
- CoinGecko listing
- Livecoin Watch
- 10,000 Telegram
- 10,000 Twitter
- 20,000 Holders
- Liquidity farming
- CEX listings
- Full audit reports
- X10 Marketing(influencers)

Q3 - Utility

- SAFU MAX V2 Governance token launch
- NFT marketplace
- Charity tour(Global)
- Cross-chain integration
- More CEX listings
- X50 marketing (100 celebrity influencers)

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 by holding tokens.
- Anyone who's interested in trading tokens.
- Anyone who's interested in taking part with SAFUMAX future plans.
- Anyone who's interested in making financial transactions with any other party using **SAFUMAX** as the currency.

Core concept

The reward system

3% of each transaction when buying and selling gets sent amongst all holders in tokens. The holders will be eligible to receive tokens, whenever a transaction occurs, and rewards are proportional to how many tokens each individual holds.

Sustainable mechanism

The buyback and burn mechanism collects 6% tax on each transaction, which is stored inside the contract. Whenever a buy or sell occurs, a fraction of the buyback amount is used to automatically purchase tokens from the liquidity pool. Those tokens are immediately burned after purchase, which keeps the token price stable.

The **fee of 3% marketing** and **1% development** is what allows SAFUMAX to promote the token and use funds to further development of the platform. Tokens will be swapped into BNBs and will be sent to a marketing wallet per transaction. This way, SAFUMAX will have access to the funds without selling tokens as the traditional way, which will enable them to consume funds without hurting the project.

Anti-whale strategy

SAFUMAX has a unique mechanism to stop whales from manipulating the price. Whales can only sell 0.25% of the supply at once and are then locked for 20 minutes from selling. By this in place combined with the auto buy backs, this will lead to a steady up-trend in the chart.

Potential to grow with score points

1.	Project efficiency	7/10
2.	Project uniqueness	7/10
3	Information quality	7/10
4	Service quality	7/10
5	System quality	7/10
6	Impact on the community	7/10
7	Impact on the business	7/10
8	Preparing for the future	6/10
Total Points		**6.88/10**

Contract details

Token contract details for 18th August 2021

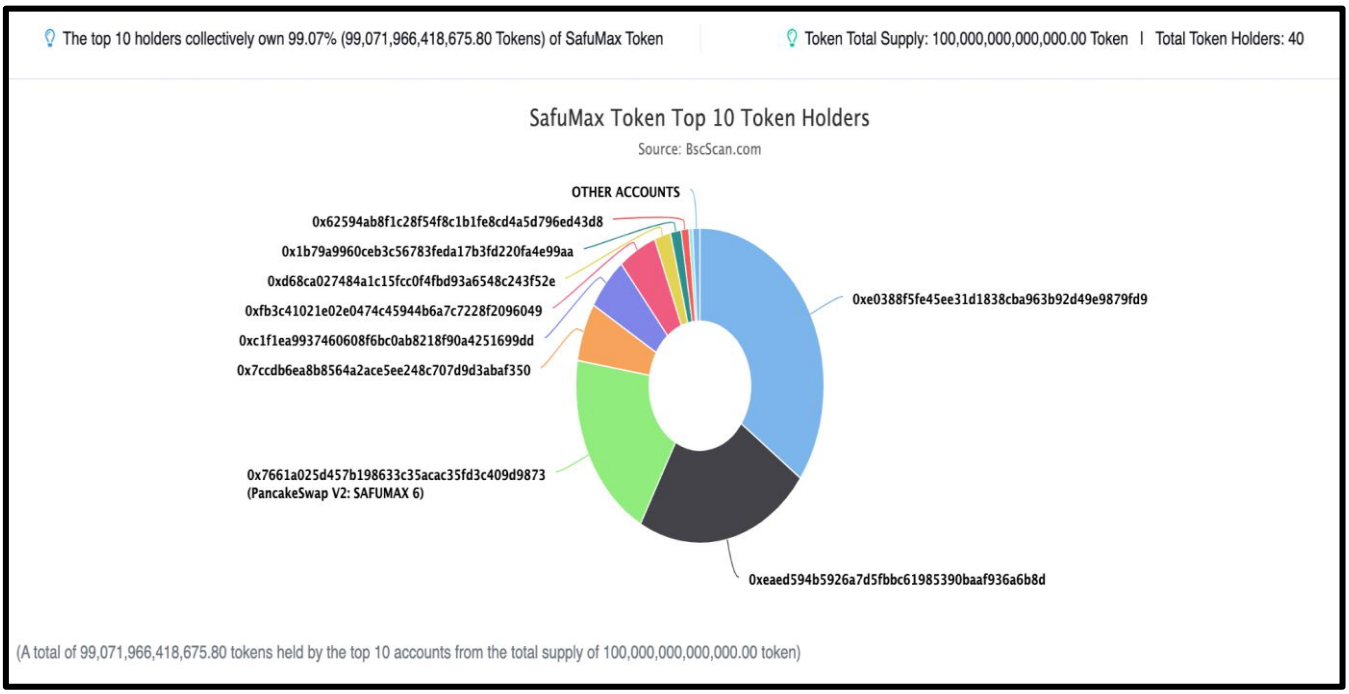
Contract name	SAFUMAX Token
Contract address	0x1B79A9960ceB3c56783FEdA17b3FD220FA4e99aa
Token supply	100,000,000,000,000
Token ticker	SAFUMAX
Decimals	9
Token holders	40
Transaction count	89
Top 100% holders dominance	99.70%
Developer address	0x62594ab8f1c28f54f8c1b1fe8cd4a5d796ed43d8
Marketing address	0x7ccdb6ea8b8564a2ace5ee248c707d9d3abaf350
Contract deployer address	0xeAad58c6FbCF878ef035d3Df5bfd04c8f2bF3562
Contract's current owner address	0xc1f1ea9937460608f6bc0ab8218f90a4251699dd

Top token holders

Top 10 Token Holders

The top 10 holders collectively own 99.07% (99,071,966,418,675.80 Tokens) of SafuMax Token

Token Total Supply: 100,000,000,000,000.00 Token | Total Token Holders: 40

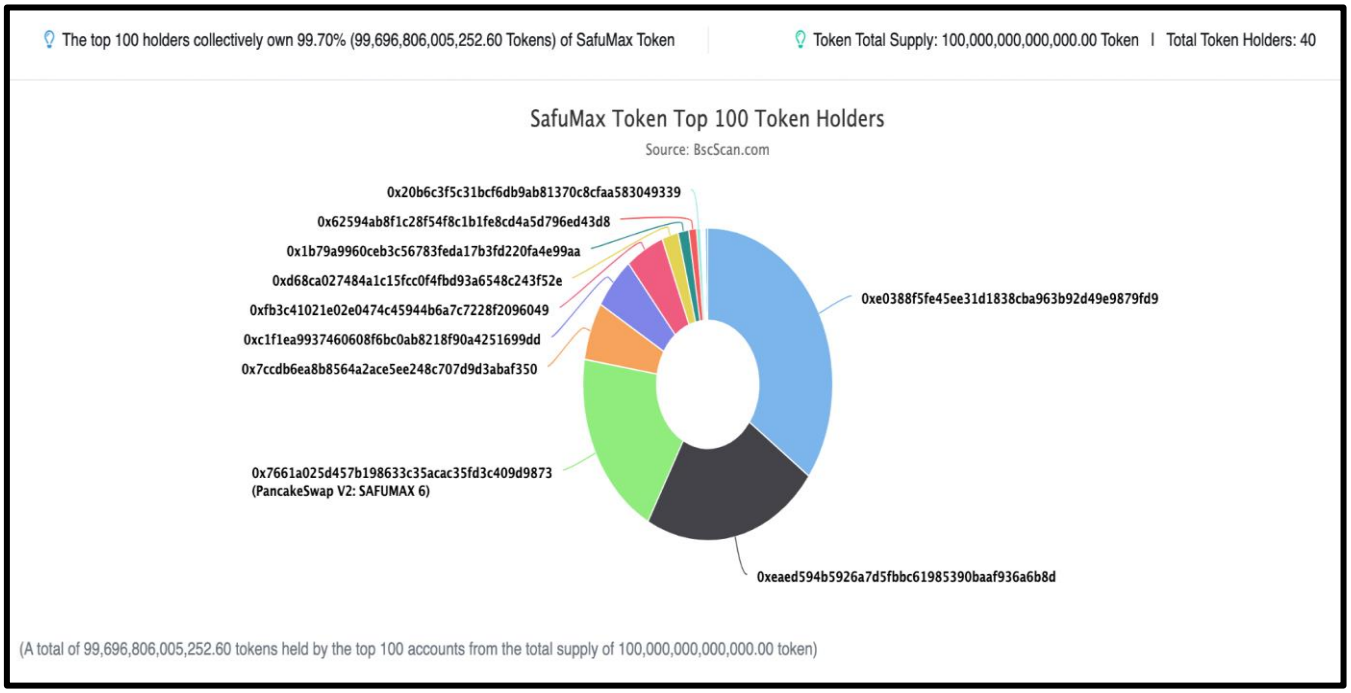


(A total of 99,071,966,418,675.80 tokens held by the top 10 accounts from the total supply of 100,000,000,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0xe0388f5fe45ee31d1838cba963b92d49e9879fd9	35,000,000,000,000	35.0000%
2	0xeaed594b5926a7d5fbbc61985390baaf936a6b8d	22,959,851,826,636.345198819	22.9599%
3	PancakeSwap V2: SAFUMAX 6	19,615,599,104,826.000970213	19.6156%
4	0x7ccdb6ea8b8564a2ace5ee248c707d9d3abaf350	6,000,000,000,000	6.0000%
5	0xc1f1ea9937460608f6bc0ab8218f90a4251699dd	5,489,222,583,529.99767616	5.4892%
6	0xfb3c41021e02e0474c45944b6a7c7228f2096049	5,000,000,000,000	5.0000%
7	0xd68ca027484a1c15fcc0f4fbd93a6548c243f52e	2,115,900,320,913.617724623	2.1159%
8	0x1b79a9960ceb3c56783feda17b3fd220fa4e99aa	1,373,186,765,954.179890185	1.3732%
9	0x62594ab8f1c28f54f8c1b1fe8cd4a5d796ed43d8	1,009,095,870,046.388230722	1.0091%
10	0x20b6c3f5c31bcf6db9ab81370c8cfaa583049339	509,109,946,769.224968069	0.5091%

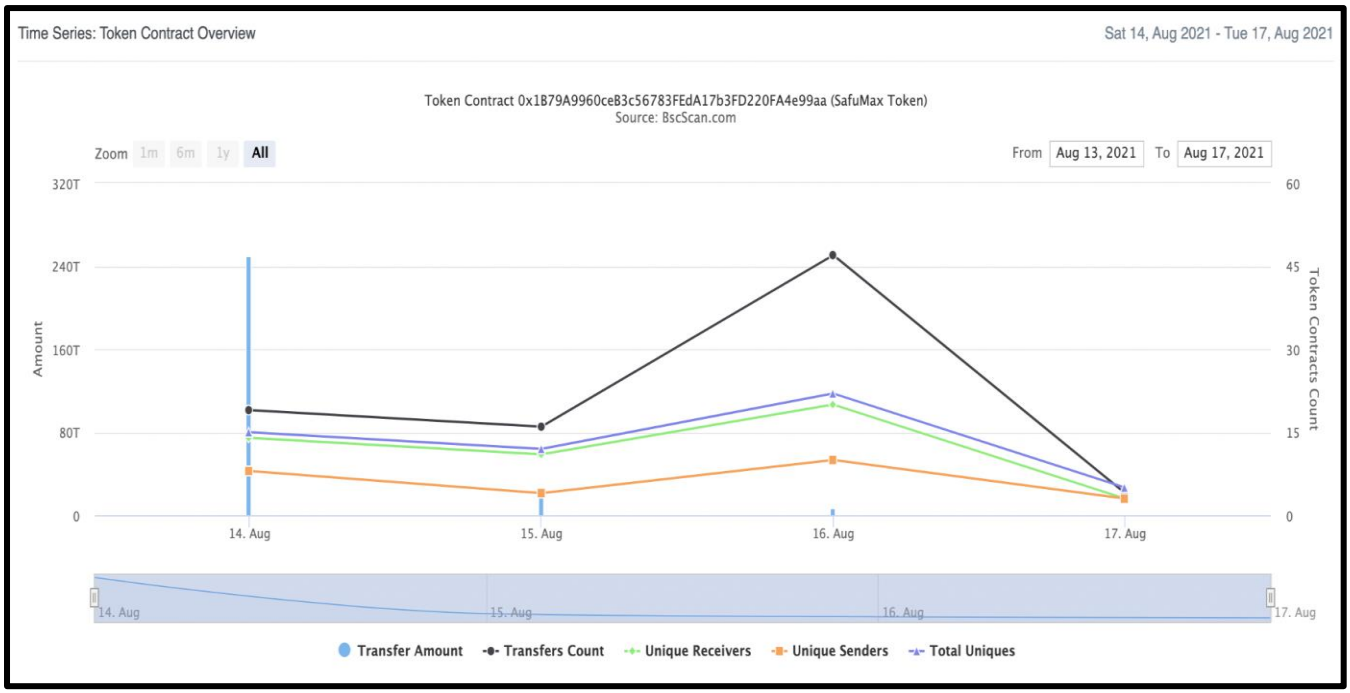
Token distribution

Top 100 Token Holders



Tokens are distributed as follows:

Contract interaction details



Contract code function details

No	Category	Item	Result
1	Coding conventions	BRC20 Token standards	pass
		compile errors	pass
		Compiler version security	pass
		visibility specifiers	pass
		Gas consumption	pass
		SafeMath features	pass
		Fallback usage	pass
		tx.origin usage	pass
		deprecated items	pass
		Redundant code	pass
		Overriding variables	pass
2	Function call audit	Authorization of function call	pass
		Low level function (call/delegate call) security	pass
		Returned value security	pass
		Selfdestruct function security	pass
3	Business security	Access control of owners	pass
		Business logics	pass
		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	Type	Bases		
└	Function Name	Visibility	Mutability	Modifiers
IERC20	**Interface**			
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
SafeMath	**Library**			
└	add	Internal 🔒		
└	sub	Internal 🔒		
└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
└	mod	Internal 🔒		
Context	**Implementation**			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		

Address	Library			
└	isContract	Internal 🔒		
└	sendValue	Internal 🔒	🛑	
└	functionCall	Internal 🔒	🛑	
└	functionCall	Internal 🔒	🛑	
└	functionCallWithValue	Internal 🔒	🛑	
└	functionCallWithValue	Internal 🔒	🛑	
└	_functionCallWithValue	Private 🔐	🛑	
Ownable	**Implementation**	**Context**		
└		Internal 🔒	🛑	
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
└	geUnlockTime	Public ❗		NO❗
└	lock	Public ❗	🛑	onlyOwner
└	unlock	Public ❗	🛑	NO❗
IUniswapV2Factory	**Interface**			
└	feeTo	External ❗		NO❗
└	feeToSetter	External ❗		NO❗
└	getPair	External ❗		NO❗
└	allPairs	External ❗		NO❗
└	allPairsLength	External ❗		NO❗
└	createPair	External ❗	🛑	NO❗
└	setFeeTo	External ❗	🛑	NO❗
└	setFeeToSetter	External ❗	🛑	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 ❗	🛑	NO❗
L	transferFrom	External ❗	🛑	NO❗
L	DOMAIN_SEPARATOR	External ❗		NO❗
L	PERMIT_TYPEHASH	External ❗		NO❗
L	nonces	External ❗		NO❗
L	permit	External ❗	🛑	NO❗
L	MINIMUM_LIQUIDITY	External ❗		NO❗
L	factory	External ❗		NO❗
L	token0	External ❗		NO❗
L	token1	External ❗		NO❗
L	getReserves	External ❗		NO❗
L	price0CumulativeLast	External ❗		NO❗
L	price1CumulativeLast	External ❗		NO❗
L	kLast	External ❗		NO❗
L	mint	External ❗	🛑	NO❗
L	burn	External ❗	🛑	NO❗
L	swap	External ❗	🛑	NO❗
L	skim	External ❗	🛑	NO❗
L	sync	External ❗	🛑	NO❗
L	initialize	External ❗	🛑	NO❗

IUniswapV2Router01	**Interface**			
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	addLiquidity	External ❗	🛑	NO❗
└	addLiquidityETH	External ❗	💵	NO❗
└	removeLiquidity	External ❗	🛑	NO❗
└	removeLiquidityETH	External ❗	🛑	NO❗
└	removeLiquidityWithPermit	External ❗	🛑	NO❗
└	removeLiquidityETHWithPermit	External ❗	🛑	NO❗
└	swapExactTokensForTokens	External ❗	🛑	NO❗
└	swapTokensForExactTokens	External ❗	🛑	NO❗
└	swapExactETHForTokens	External ❗	💵	NO❗
└	swapTokensForExactETH	External ❗	🛑	NO❗
└	swapExactTokensForETH	External ❗	🛑	NO❗
└	swapETHForExactTokens	External ❗	💵	NO❗
└	quote	External ❗		NO❗
└	getAmountOut	External ❗		NO❗
└	getAmountIn	External ❗		NO❗
└	getAmountsOut	External ❗		NO❗
└	getAmountsIn	External ❗		NO❗
IUniswapV2Router02	**Interface**	**IUniswapV2Router01**		
└	removeLiquidityETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
└	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
└	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗	🛑	NO❗

L	swapExactETHForTokensSupportingFeeOnTransferTokens	External ❗		NO❗
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
SafuMaxToken	**Implementation**	**Context, IERC20, Ownable**		
L		Public ❗	🛑	NO❗
L	name	Public ❗		NO❗
L	symbol	Public ❗		NO❗
L	decimals	Public ❗		NO❗
L	totalSupply	Public ❗		NO❗
L	balanceOf	Public ❗		NO❗
L	transfer	Public ❗	🛑	NO❗
L	allowance	Public ❗		NO❗
L	approve	Public ❗	🛑	NO❗
L	transferFrom	Public ❗	🛑	NO❗
L	increaseAllowance	Public ❗	🛑	NO❗
L	decreaseAllowance	Public ❗	🛑	NO❗
L	isExcludedFromReward	Public ❗		NO❗
L	totalFees	Public ❗		NO❗
L	deliver	Public ❗	🛑	NO❗
L	reflectionFromToken	Public ❗		NO❗
L	tokenFromReflection	Public ❗		NO❗
L	excludeFromReward	Public ❗	🛑	onlyOwner
L	includeInReward	External ❗	🛑	onlyOwner
L	_transferBothExcluded	Private 🔐	🛑	
L	excludeFromFee	Public ❗	🛑	onlyOwner
L	includeInFee	Public ❗	🛑	onlyOwner

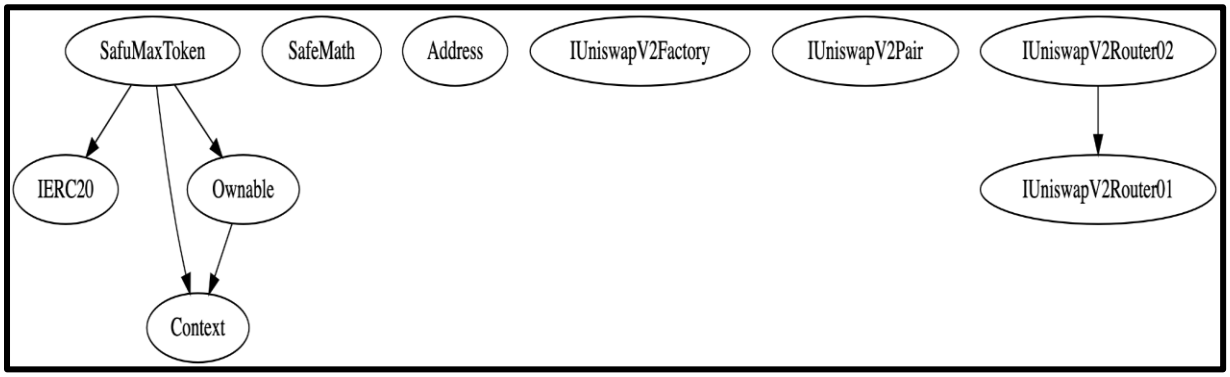
L	setMaxTxPercent	External ❗	🛑	onlyOwner
L	setSwapAndLiquifyEnabled	Public ❗	🛑	onlyOwner
L		External ❗	💵	NO❗
L	_reflectFee	Private 🔐	🛑	
L	_getValues	Private 🔐		
L	_getTValues	Private 🔐		
L	_getRValues	Private 🔐		
L	_getRate	Private 🔐		
L	_getCurrentSupply	Private 🔐		
L	_takeLiquidity	Private 🔐	🛑	
L	calculateTaxFee	Private 🔐		
L	calculateBuybackFee	Private 🔐		
L	calculateDevFee	Private 🔐		
L	calculateMarketingFee	Private 🔐		
L	removeAllFee	Private 🔐	🛑	
L	restoreAllFee	Private 🔐	🛑	
L	isExcludedFromFee	Public ❗		NO❗
L	_approve	Private 🔐	🛑	
L	_transfer	Private 🔐	🛑	
L	swapTokensForEth	Private 🔐	🛑	
L	swapETHForTokens	Private 🔐	🛑	
L	swapTokensForEthAndBuyBack	Private 🔐	🛑	lockTheSwap
L	transferToAddressETH	Private 🔐	🛑	
L	_tokenTransfer	Private 🔐	🛑	
L	_transferStandard	Private 🔐	🛑	
L	_transferToExcluded	Private 🔐	🛑	
L	_transferFromExcluded	Private 🔐	🛑	
L	_getOtherFee	Private 🔐		

L	withdrawBNB	External ❗	🛑	onlyOwner
L	inCaseTokensGetStuck	External ❗	🛑	onlyOwner
L	setNumTokensSellToAddToLiquidity	Public ❗	🛑	onlyOwner
L	setMarketingAddress	External ❗	🛑	onlyOwner
L	setDevAddress	External ❗	🛑	onlyOwner

Legend

Symbol	Meaning
🛑	**Function can modify state**
💵	**Function is payable**

Inheritance Hierarchy



Security issue checking status

- **High severity issues**
  No medium severity issues found.

- **Medium severity issues**
  No medium severity issues found.

- **Low severity issues**
  Liquidity is not getting added to the liquidity pool against all the trades, which might be a reason to lead to a market and token price imbalance. Owners can manually add liquidity from time to time but, still not a good feasible solution.

Owner privileges

Ownership privileges owner had

- The owner can transfer and renounce the ownership.

```
ftrace | funcSig
function renounceOwnership() public virtual onlyOwner {
    emit OwnershipTransferred(_owner, address(0));
    _owner = address(0);
}

/**
 * @dev Transfers ownership of the contract to a new account (`newOwner`).
 * Can only be called by the current owner.
 */
ftrace | funcSig
function transferOwnership(address newOwner⬆) public virtual onlyOwner {
    require(newOwner⬆ != address(0), "Ownable: new owner is the zero address");
    emit OwnershipTransferred(_owner, newOwner⬆);
    _owner = newOwner⬆;
}
```

- The owner can include and exclude wallets from rewards.

```
ftrace | funcSig
function excludeFromReward(address account⬆) public onlyOwner() {
    require(!_isExcluded[account⬆], "Account is already excluded");
    if(_rOwned[account⬆] > 0) {
        _tOwned[account⬆] = tokenFromReflection(_rOwned[account⬆]);
    }
    _isExcluded[account⬆] = true;
    _excluded.push(account⬆);
}

ftrace | funcSig
function includeInReward(address account⬆) external onlyOwner() {
    require(_isExcluded[account⬆], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account⬆) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account⬆] = 0;
            _isExcluded[account⬆] = false;
            _excluded.pop();
            break;
        }
    }
}
```

❖ The owner can include and exclude wallets from the fee

```
ftrace | funcSig
function excludeFromFee(address account⬆) public onlyOwner {
    _isExcludedFromFee[account⬆] = true;
}

ftrace | funcSig
function includeInFee(address account⬆) public onlyOwner {
    _isExcludedFromFee[account⬆] = false;
}
```

❖ The owner can change the max transaction amount.

```
ftrace | funcSig
function setMaxTxPercent(uint256 maxTxPercent⬆) external onlyOwner() {
    _maxTxAmount = _tTotal.mul(maxTxPercent⬆).div(
        10**4
    );
}
```

❖ The owner can enable and disable liquidity adding.

```
ftrace | funcSig
function setSwapAndLiquifyEnabled(bool _enabled⬆) public onlyOwner {
    swapAndLiquifyEnabled = _enabled⬆;
    emit SwapAndLiquifyEnabledUpdated(_enabled⬆);
}
```

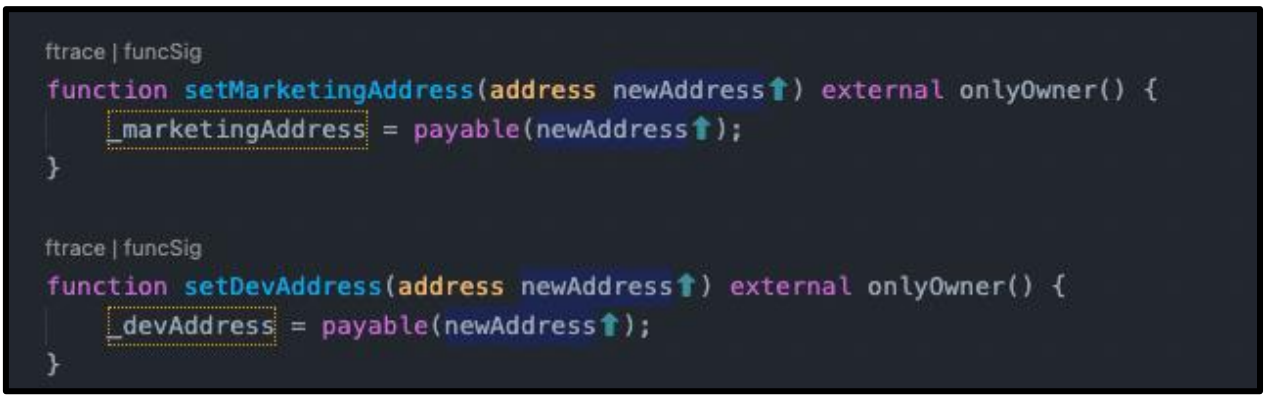
❖ The owner can withdraw the contract's current BNB balance.

```
ftrace | funcSig
function withdrawBNB(uint256 amount⬆) external onlyOwner() {
    require(amount⬆ <= address(this).balance, 'withdrawBNB::Insufficient amount');
    msg.sender.transfer(amount⬆);
    emit Transfer(address(this), msg.sender, amount⬆);
}
```

- The owner can withdraw other tokens from the contract.

```
ftrace | funcSig
function inCaseTokensGetStuck(address _token⬆, uint256 _amount⬆, address _to⬆) external onlyOwner() {
    require(_token⬆ != address(this), 'inCaseTokensGetStuck: Native token transfer is unavailable');
    IERC20(_token⬆).transfer(_to⬆, _amount⬆);
}
```

- The owner can change the marketing and dev address.



```
ftrace | funcSig
function setMarketingAddress(address newAddress⬆) external onlyOwner() {
    _marketingAddress = payable(newAddress⬆);
}

ftrace | funcSig
function setDevAddress(address newAddress⬆) external onlyOwner() {
    _devAddress = payable(newAddress⬆);
}
```

Audit conclusion

While conducting the audit of the SAFUMAX Token smart contract, it was observed that there is nothing alarming with the code other than a low severity issue.