



# Full report With Reassessment

Saudi Doge Coin Security Assessment







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# **Report Information**

- report information	
About Report	Saudi Doge Coin Security Assessment
Version	v1.2
Client	Saudi Doge Coin
Language	Solidity
Confidentiality	Public
Platform	BNB Chain (Previously Binance Smart Chain)
Contract Address	0x6219F843643aDE8C7E8165A878835f0F22ED149C
	Reassessment New Contract  0x2903Bb216CF28A05fB18dFDc08727BaEbfAC60eC
Audit Method	Whitebox

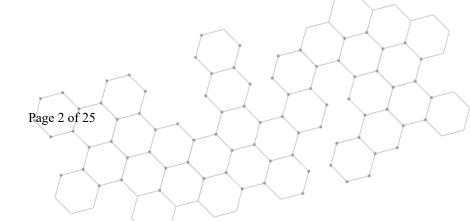
#### \*Audit Method

1. Whitebox: Securi Team receives all source code from the client to provide the assessment.

2. Blackbox: Securi Team receives only bytecode from the client to provide the assessment.

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#### **Disclaimer**

Regarding this security assessment, there are no guarantees about the security of the program instruction received from the client is hereinafter referred to as "Source code".

And **SECURI** hereinafter referred to as "**Service Provider**", the **Service Provider** will not be held liable for any legal liability arising from errors in the security assessment. The responsibility will be the responsibility of the **client**, hereinafter referred to as "**Service User**" and the **service user** agrees not to be held liable to the **service provider** in any case. By contract **service provider** to conduct security assessments with integrity with professional ethics, and transparency to deliver security assessments to users The **service provider** has the right to postpone the delivery of the security assessment. If the security assessment is delayed whether caused by any reason and is not responsible for any delayed security assessments. If **the service provider** finds a vulnerability The **service provider** will notify the **service user** via the Preliminary Report, which will be kept confidential for security. The **service provider** disclaims responsibility in the event of any attacks occurring whether before conducting a security assessment. Or happened later All responsibility shall be sole with the **service user**.

Security Assessment Not Financial/Investment Advice Any loss arising from any investment in any project is the responsibility of the investor.

SECURI disclaims any liability incurred. Whether it's Rugpull, Abandonment, Soft Rugpull

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# **Executive Summary**

For this security assessment, Securi received a request from Saudi Doge Coin on Wednesday, August 17, 2022.

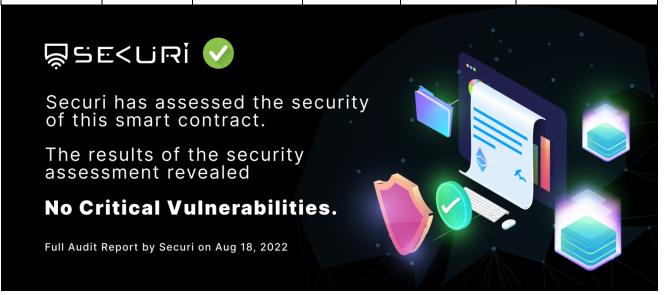
The Securi team has conducted a comprehensive security assessment of the vulnerabilities. This assessment is tested with an expert assessment. Using the following test requirements

- 1. Smart Contract Testing with Expert Analysis By testing the most common and uncommon vulnerabilities.
- 2. Automated program testing It includes a sample vulnerability test and a sample of the potential vulnerabilities being used for the most frequent attacks.
- 3. Visibility, Mutability, Modifier function testing, such as whether a function can be seen in general, or whether a function can be changed and if so, who can change it.
- 4. Function association test It will be displayed through the association graph.
- 5. This safety assessment is cross-checked prior to the delivery of the assessment results.

#### **Audit Result**

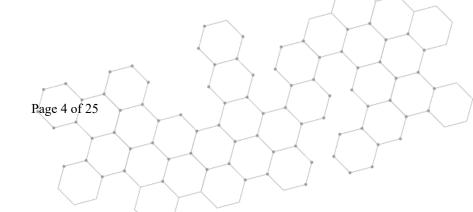
Securi evaluated the smart contract security of the Example project and found:

Critical	High	Medium	Low	Very Low	Informational
0	1 [Resolved]	1	2	0	1



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# **Project Introduction Scope Information:**

Project Name	Saudi Doge Coin
Website	https://saudidogecoin.com/
Chain	BNB Chain (Previously Binance Smart Chain)
Language	Solidity

# **Audit Information:**

Request Date	Wednesday, August 17, 2022
Audit Date	Wednesday, August 17, 2022

# **Audit Version History:**

Version	Date	Description
1.0	Wednesday, August 17, 2022	Preliminary Report
1.1	Thursday, August 18, 2022	Full Report
1.2	Friday, August 19, 2022	Reassessment

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# Initial Audit Scope: Contract: 0x6219F843643aDE8C7E8165A878835f0F22ED149C

Smart Contract	0x6219F843643aDE8C7E8165A878835f0F22ED149C
Contract Name	KSADogeToken
Compiler Version	v0.6.12+commit.27d51765

# Reassessment Audit Scope: Contract: 0x2903Bb216CF28A05fB18dFDc08727BaEbfAC60eC

Smart Contract	0x2903Bb216CF28A05fB18dFDc08727BaEbfAC60eC
Contract Name	KSADogeToken
Compiler Version	v0.6.12+commit.27d51765
Reassessment Date	Friday, August 19, 2022 19.00 UTC+8
BSC Contract Verification	Submitted for verification at BscScan.com on 2022-08-18

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#### **Security Assessment Procedure**

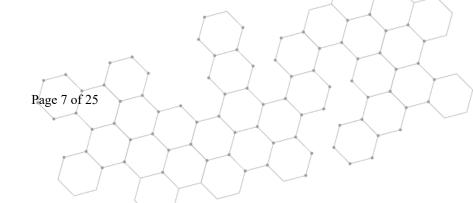
Securi has the following procedures and regulations for conducting security assessments:

- **1. Request Audit** Client submits a form request through the Securi channel. After receiving the request, Securi will discuss a security assessment. And drafting a contract and agreeing to sign a contract together with the Client
- **2. Auditing** Securi performs security assessments of smart contracts obtained through automated analysis and expert manual audits.
- **3. Preliminary Report** At this stage, Securi will deliver an initial security assessment. To report on vulnerabilities and errors found under Audit Scope will not publish preliminary reports for safety.
- **4. 4.Reassessment** After Securi has delivered the Preliminary Report to the Client, Securi will track the status of the vulnerability or error, which will be published to the Final Report at a later date with the following statuses:
  - **1. a.Acknowledge** The client has been informed about errors or vulnerabilities from the security assessment.
  - **b.Resolved**The client has resolved the error or vulnerability. Resolved is probably just a commit, and Securi is unable to verify that the resolved has been implemented or not.
  - **3. c.Decline** Client has rejected the results of the security assessment on the issue.
- **5.** Final Report Securi providing full security assessment report and public



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# **Risk Rating**

Risk rating using this commonly defined:  $Risk \ rating = impact * confidence$ 

**1. Impact** The severity and potential impact of an attacker attack

2. Confidence Ensuring that attackers expose and use this vulnerability

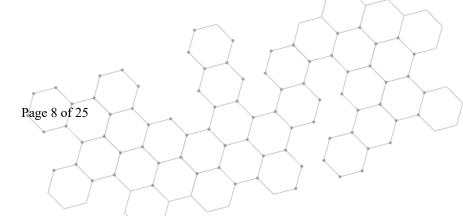
Both have a total of 3 levels: **High, Medium, Low**. By *Informational* will not be classified as a

Confidence Impact	Low	Medium	High
Low	Very Low	Low	Medium
Medium	Low	Medium	High
High	Medium	High	Critical

**Severity** is a risk assessment It is calculated from the Impact and Confidence values using the following calculation methods,  $Risk\ rating = impact * confidence$  It is categorized into **5 categories based** on the **lowest severity**: Very Low, Low, Medium, High, Critical. For **Informational** will not be counted as **severity** 

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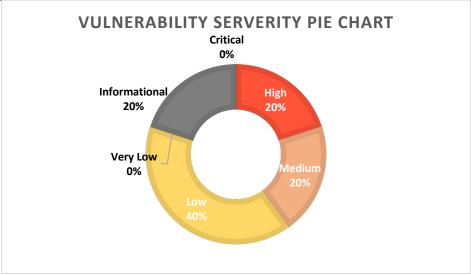
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**Vulnerability Severity Summary** 

Vulnerability Severity Level	Total
Critical	0
High	1 [Resolved]
Medium	1
Low	2
Very Low	0
Informational (Non severity level)	



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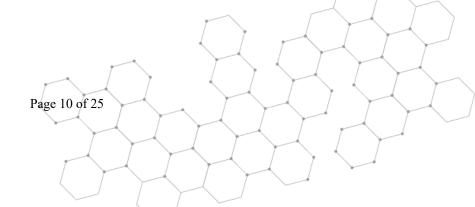


**Vulnerability Findings** 

	1		
ID	Title	Severity	Status
SEC-01	Uninitialized state variables	Medium	Acknowledge
SEC-02	Unused return values	LOW	Acknowledge
SEC-03	Missing Events Arithmetic	LOW	Acknowledge
SEC-04	setMarketingFeePercent fee are not limited	High	Resolved
SWC-102	Outdated Compiler Version	Informational	Acknowledge

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# **SEC-01:** Uninitialized state variables

Туре	Severity	Location	Status
Uninitialized state variables	Medium	Line: 680-681	Acknowledge

#### Finding:

- X KSADogeToken.\_excluded (Saudi Doge Coin.sol:681) is never initialized. It is used in:
  - KSADogeToken. getCurrentSupply() (Saudi Doge Coin.sol#911-921)
- X KSADogeToken.\_isExcluded (Saudi Doge Coin.sol:680) is never initialized. It is used in:
  - KSADogeToken.balanceOf(address) (Saudi Doge Coin.sol#769-772)
  - KSADogeToken.\_takeLiquidity(uint256) (Saudi Doge Coin.sol#923-929)
  - KSADogeToken. tokenTransfer(address,address,uint256,bool) (Saudi Doge Coin.sol#1087-1105)

#### **Recommendation:**

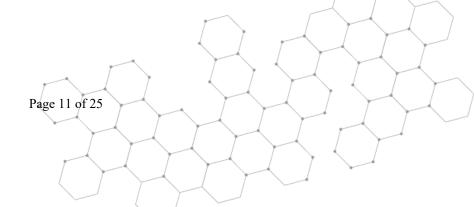
Initialize all the variables. If a variable is meant to be initialized to zero, explicitly set it to zero to improve code readability.

#### **Alleviation:**

Saudi Doge Coin Team has acknowledge this issues.

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# **SEC-02:** Unused return values

Туре	Severity	Location	Status
Unused return values	LOW	Line: 1071-1084	Acknowledge

# Finding:

KSADogeToken.addLiquidity(uint256,uint256) (Saudi Doge Coin.sol:1071-1084) ignores return value by uniswapV2Router.addLiquidityETH{value:

ethAmount}(address(this),tokenAmount,0,0,owner(),block.timestamp) (Saudi Doge Coin.sol#1076-1083)

#### **Recommendation:**

Ensure that all the return values of the function calls are used.

#### Alleviation:

Saudi Doge Coin Team has acknowledge this issues.

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# **SEC-03:** Missing Events Arithmetic

Туре	Severity	Location	Status
Missing Events Arithmetic	LOW	Line: 836-838, 843-845, 839-841, 847-849	Acknowledge

#### Finding:

- X KSADogeToken.setLiquidityFeePercent(uint256) (Saudi Doge Coin.sol:836-838) should emit an event for:
- X KSADogeToken.setBurnFeePercent(uint256) (Saudi Doge Coin.sol:843-845) should emit an event for:
  - \_burnFee = burnfee (Saudi Doge Coin.sol#844)
  - \_liquidityFee = liquidityFee (Saudi Doge Coin.sol#837)
- XKSADogeToken.setMarketingFeePercent(uint256) (Saudi Doge Coin.sol:839-841) should emit an event for:
  - \_marketingFee = marketingfee (Saudi Doge Coin.sol#840)
- KSADogeToken.setTeamOperationsFeePercent(uint256) (Saudi Doge Coin.sol:847-849) should emit an event for:
  - \_teamOperationFee = teamfee (Saudi Doge Coin.sol#848)

#### **Recommendation:**

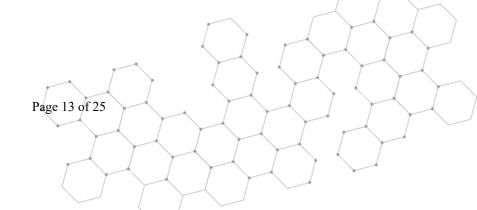
Emit an event for critical parameter changes.

#### Alleviation:

Saudi Doge Coin Team has acknowledge this issues.

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# SEC-04: setMarketingFeePercent fee are not limited [Resolved]

Туре	Severity	Location	Status
setMarketingFeePercent fee are not limited	High	-	Resolved

#### **Description:**

The owner can use this function to take 100% of the amount to the marketing fee

#### **Recommendation:**

Add requirements for input data in setMarketingFeePercent

#### Alleviation:

From Lucus [Saudi Doge Coin]: In 2 days time we will deploy a new contract.

#### **Reassessment Detail:**

SECURI LAB Received reassessment request on Friday, August 19, 2022 To reassessment new contract address

0x2903Bb216CF28A05fB18dFDc08727BaEbfAC60eC

SECURI LAB Reassessment on Friday, August 19, 2022 And remark this SEC-04 setMarketingFeePercent fee are not limited has been resolved on new contract address with adding this function

require(marketingfee <= 5, "marketing fee should be less than 5%");

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**SWC Findings** 

<u> </u>	<u></u>		
ID	Title	Scanning	Result
SWC-100	Function Default Visibility	Complete	No risk
SWC-101	Integer Overflow and Underflow	Complete	No risk
SWC-102	Outdated Compiler Version	Complete	Informational
SWC-103	Floating Pragma	Complete	No risk
SWC-104	Unchecked Call Return Value	Complete	No risk
SWC-105	Unprotected Ether Withdrawal	Complete	No risk
SWC-106	Unprotected SELFDESTRUCT Instruction	Complete	No risk
SWC-107	Reentrancy	Complete	No risk
SWC-108	State Variable Default Visibility	Complete	No risk
SWC-109	Uninitialized Storage Pointer	Complete	No risk
SWC-110	Assert Violation	Complete	No risk
SWC-111	Use of Deprecated Solidity Functions	Complete	No risk
SWC-112	Delegatecall to Untrusted Callee	Complete	No risk
SWC-113	DoS with Failed Call	Complete	No risk

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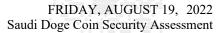


	FULL REPURT WITH REA	TOOLOOMILIVI	
SWC-114	Transaction Order Dependence	Complete	No risk
SWC-115	Authorization through tx.origin	Complete	No risk
SWC-116	Block values as a proxy for time	Complete	No risk
SWC-117	Signature Malleability	Complete	No risk
SWC-118	Incorrect Constructor Name	Complete	No risk
SWC-119	Shadowing State Variables	Complete	No risk
SWC-120	Weak Sources of Randomness from Chain Attributes	Complete	No risk
SWC-121	Missing Protection against Signature Replay Attacks	Complete	No risk
SWC-122	Lack of Proper Signature Verification	Complete	No risk
SWC-123	Requirement Violation	Complete	No risk
SWC-124	Write to Arbitrary Storage Location	Complete	No risk
SWC-125	Incorrect Inheritance Order	Complete	No risk
SWC-126	Insufficient Gas Griefing	Complete	No risk
SWC-127	Arbitrary Jump with Function Type Variable	Complete	No risk
SWC-128	DoS With Block Gas Limit	Complete	No risk
SWC-129	Typographical Error	Complete	No risk

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	TOEL REPORT WITH RE		
SWC-130	Right-To-Left-Override control character (U+202E)	Complete	No risk
SWC-131	Presence of unused variables	Complete	No risk
SWC-132	Unexpected Ether balance	Complete	No risk
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Complete	No risk
SWC-134	Message call with hardcoded gas amount	Complete	No risk
SWC-135	Code With No Effects	Complete	No risk
SWC-136	Unencrypted Private Data On-Chain	Complete	No risk

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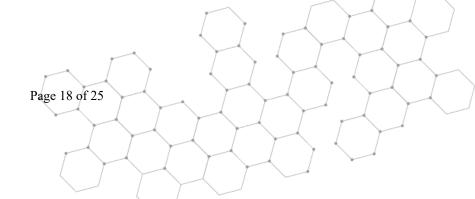
# Visibility, Mutability, Modifier function testing

```
Contracts Description Table
| Contract |
              Type
                          Bases
| **Function Name** | **Visibility** | **Mutability** | **Modifiers** | |
| **SafeMath** | Library | |||
| └ | add | Internal 🔒 | | |
| └ | sub | Internal 🛍 | | |
| L | sub | Internal 🖴 | | |
| └ | mul | Internal ៝ | | |
| L | div | Internal 🛍 | | |
| L | div | Internal 🛍 | | |
| L | mod | Internal 🕮 | | |
| └ | mod | Internal 🖴 | | |
| **Context** | Implementation | |||
| L | _msgSender | Internal 🗎 | | |
| **Address** | Library | |||
| L | isContract | Internal 🖴 | | |
| L | sendValue | Internal 🛍 | 🛑 | |
| L | functionCall | Internal 🔓 | 🥮 | |
| L | functionCall | Internal 🛍 | 🥮 | |
| L | functionCallWithValue | Internal 🛍 | 🥮 | |
| └ | functionCallWithValue | Internal 🛍 | 🥮 | |
| L | _functionCallWithValue | Private 🔐 | 🥮 | |
ШШ
| **IERC20** | Interface | ||| | |
| L | transfer | External | | | NO | |
| L | allowance | External | | | NO | |
    approve | External |
```

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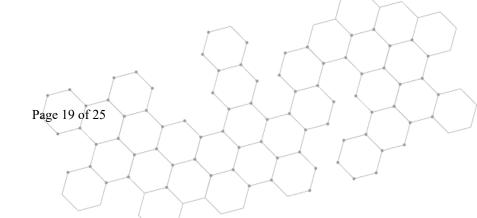




```
| L | transferFrom | External | | | | NO | |
| **Ownable** | Implementation | Context | | |
| L | <Constructor> | Internal 🛍 | 🥮 | |
| L | owner | Public | | NO | |
| L | renounceOwnership | Public | | 🛑 | onlyOwner |
| L | transferOwnership | Public | | 🛑 | onlyOwner |
111111
| **IUniswapV2Factory** | Interface | ||| | |
| L | feeTo | External | | NO | |
| L | feeToSetter | External | | NO | |
| L | getPair | External | | | NO | |
| L | allPairs | External | | NO | |
| L | allPairsLength | External | | NO | |
| L | createPair | External 👢 | 🥮 |NO 👢 |
| L | setFeeToSetter | External 👢 | 🥮 |NO 👢 |
\Pi\Pi\Pi\Pi
| **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 | MINIMUM_LIQUIDITY | External | | | NO | |
| L | factory | External | | NO | |
| L | token0 | External | | NO | |
| L | token1 | External | | NO | |
| L | getReserves | External | | NO | |
    price0CumulativeLast | External | | NO
```

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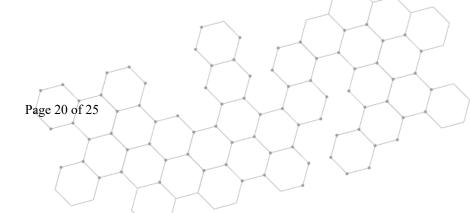




```
| L | kLast | External | | NO | |
| L | mint | External
                | L | burn | External | | 🛑 | NO | |
| L | skim | External | | | | NO | |
 니 sync | External ! | 🛑
                   |NO |
| L | initialize | External | | 🛑 | NO | |
\Pi\Pi\Pi\Pi
| **IUniswapV2Router01** | Interface | | | | | |
| L | factory | External | | NO | |
| L | WETH | External | | | NO | |
| L | addLiquidity | External | | | NO | |
 L | addLiquidityETH | External | | 💹 | NO | |
| L | removeLiquidity | External | | 🛑 | NO 📙
| L | removeLiquidityETH | External | | | | NO | | | | | | | |
| L | removeLiquidityWithPermit | External | | | | NO | |
| L | removeLiquidityETHWithPermit | External | | | | | | | | | | | |
| L | swapExactETHForTokens | External | | 💹 | NO 🖡 |
| L | swapETHForExactTokens | External | | 🛂 | NO 🗐 |
 L | quote | External | | | NO | |
| L | getAmountOut | External | | NO | | | |
| L | getAmountIn | External | | NO | |
| L | getAmountsOut | External | | NO | |
| L | getAmountsIn | External | | NO | |
| **IUniswapV2Router02** | Interface | IUniswapV2Router01 | | |
| L | removeLiquidityETHSupportingFeeOnTransferTokens | External I | | NO I |
| L | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External | | | | NO | |
L | swapExactTokensForETHSupportingFeeOnTransferTokens | External | | | | | NO! |
  *KSADogeToken** | Implementation | Context, IERC20, Ownable |
```

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```
L | name | Public | | | NO | |
| L | symbol | Public | | NO | | |
| L | decimals | 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 | tokenFromReflection | Private 🛍 | | |
 니 transferBothExcluded | Private 🔐 | 🛑 | |
| L | excludeFromFee | Public | | 🛑 | onlyOwner |
| L | includeInFee | Public | | 🛑 | onlyOwner |
| L | setMarketingFeePercent | External | L | e | onlyOwner |
| L | _mint | Internal 🗎 | 🛑 | |
| L | <Receive Ether> | External | | 🔤 | NO ! |
| L | _reflectFee | Private 🛍 | 🛑 | |
 └ | _getValues | Private 🔐 | | |
| L | _getTValues | Private 🔐 | | |
| L | _getRValues | Private 🔐 | | |
| └ | getRate | Private 🗳 | | |
| L | _getCurrentSupply | Private 🔐 | | |
| L | _takeLiquidity | Private 🔐 | 🥮 | |
| L | _takeBurn | Private 🔐 | 🥮 | |
| └ | _takeMarketing | Private 😭 | 🥮 | |
| L | _takeTeamOperation | Private 🔐 | 🥮 | |
| L | calculateTaxFee | Private 🔐 | | |
| L | calculateLiquidityFee | Private 🔐 | | |
| └ | calculateMarketingFee | Private 🗳 | | |
| L | calculateTeamOperationFee | Private 🔐 | | |
   calculateBurnFee | Private 🔐 |
```

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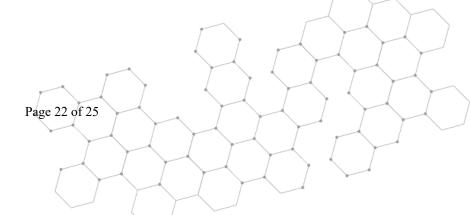




```
| L | removeAllFee | Private 😭 | 🛑 | |
| L | restoreAllFee | Private 🔐 | 🥮 | |
| L | _approve | Private 🛍 | 🛑 | |
| L | _transfer | Private 😭 | 🥮 | |
| <sup>L</sup> | swapAndLiquify | Private 🔐 | 🥌 | lockTheSwap |
 └ | swapTokensForEth | Private 🔐 | 🥮 | |
| <sup>L</sup> | addLiquidity | Private ㎡ | 🛑 | |
| L | _tokenTransfer | Private 😭 | 🛑 | |
| L | _transferStandard | Private 🔐 | 🛑 | |
| L | _transferToExcluded | Private 🔐 | 🥮 | |
| L | _transferFromExcluded | Private 😭 | 🛑 | |
Legend
| Symbol | Meaning |
      | Function can modify state |
   Function is payable |
```

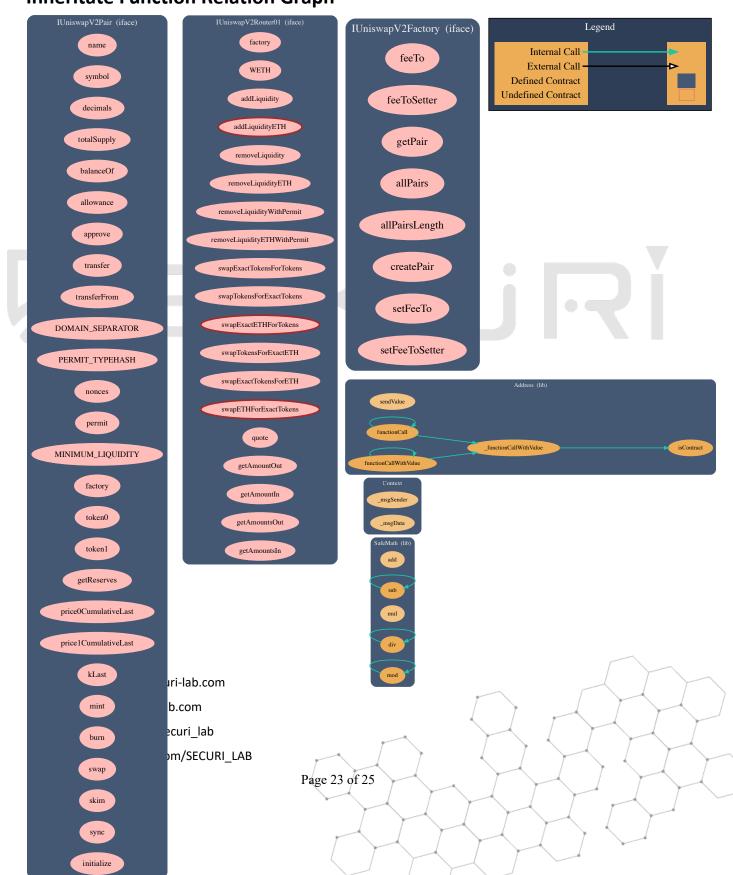
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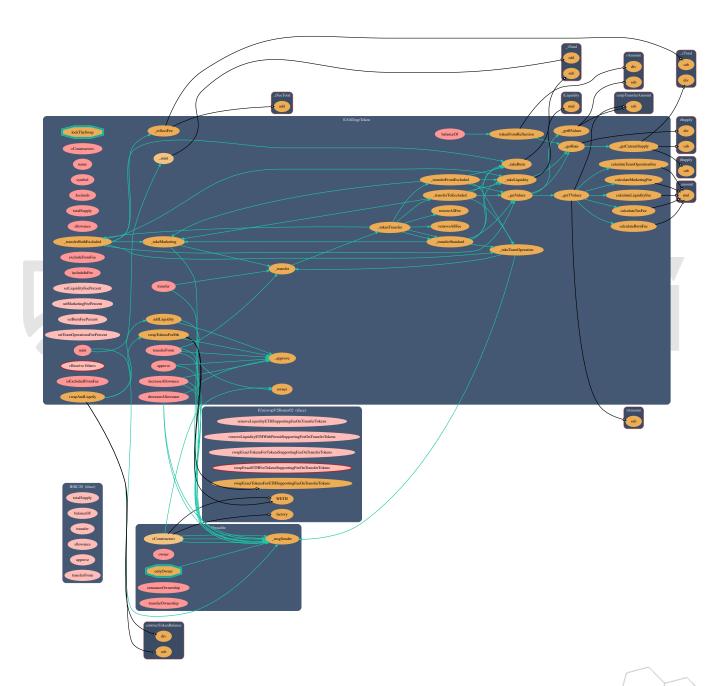




# **Inheritate Function Relation Graph**







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#### **About Securi**

Securi is a group of cyber security experts providing cyber security consulting, smart contract security audits, and KYC services covering reliable methods of identification.



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