



# Full Audit report

**BabyBitcoin Security Assessment** 







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## **Report Information**

About Report	BabyBitcoin Security Assessment
Version	v1.1
Client	BabyBitcoin
Language	Solidity
Confidentiality	Public
Platform	BNB Chain (Previously Binance Smart Chain)
Contract Address	0x255Ba803a3a61F225e15c7943918D58bcDd154c1
Audit Method	Whitebox

#### \*Audit Method

**Whitebox:** Securi Team receives all source code from the client to provide the assessment. Securi Team receives only bytecode from the client to provide the assessment.

#### **Digital Sign (Only Full Audit Report)**



#### 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

The SECURI LAB 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.



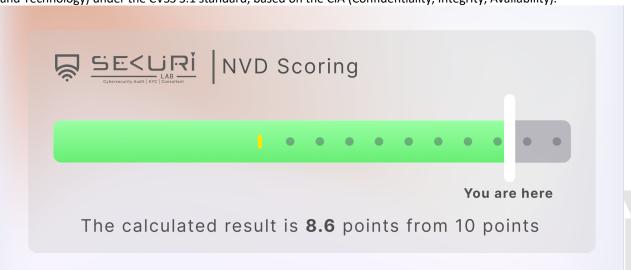


## **Executive Summary**

For this security assessment, SECURI LAB received a request from BabyBitcoin on Saturday, October 22, 2022.

#### **NVD CVSS Scoring**

The score was calculated using the NVD (National Vulnerability Database) of NIST (National Institute of Standards and Technology) under the CVSS 3.1 standard, based on the CIA (Confidentiality, Integrity, Availability).



SECURI LAB evaluated the smart contract security of the project and found: [Total: 5 Issues]

Critical	High	Medium	Low	Very Low	Informational
0	0	0	3	0	2



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SECURI REPORT TEMPLATE VERSION 1.2





# **Project Introduction Scope Information:**

Project Name	BabyBitcoin
Website	https://babybitcoin.space/
Chain	BNB Chain (Previously Binance Smart Chain)
Language	Solidity

## **Audit Information:**

Request Date	Saturday, October 22, 2022
Audit Date	Monday, October 24, 2022

## **Audit Version History:**

Version	Date	Description
1.0	Monday, October 24, 2022	Preliminary Report
1.1	Monday, October 24, 2022	Full Audit Report





# Initial Audit Scope: Contract: <a href="https://ox255Ba803a3a61F225e15c7943918D58bcDd154c1">ox255Ba803a3a61F225e15c7943918D58bcDd154c1</a>

Smart Contract	0x255Ba803a3a61F225e15c7943918D58bcDd154c1
Contract Name	Contract
Compiler Version	v0.8.16+commit.07a7930e





## **Security Assessment Procedure**

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

- Client submits a form request through the Securi channel. After receiving 1.Request Audit 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.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:
  - a.Acknowledge The client has been informed about errors or vulnerabilities from the security assessment.
  - The client has resolved the error or vulnerability. Resolved is probably just a b.Resolved commit, and Securi is unable to verify that the resolved has been implemented or not.
  - 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

















**Request Audit** 

Auditing

**Preliminary Report** 

Reassessment

**Final Report** 

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SECURI REPORT TEMPLATE VERSION 1.2



## **Risk Rating**

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

Impact The severity and potential impact of an attacker attack
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 level

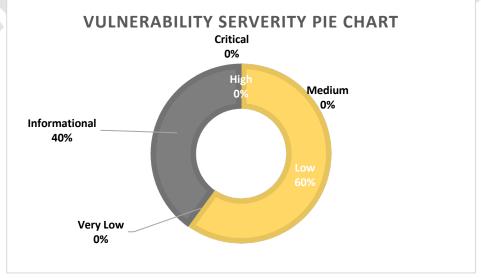
Confidence Impact	Low	Medium	High
Low	Very Low	Low	Medium
Medium	Low	Medium	High
High	Medium	High	Critical

**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** 



# **Vulnerability Severity Summary**

Vulnerability Severity Level	Total
Critical	0
High	0
Medium	0
Low	3
Very Low	0
Informational (Non severity level)	2





# **Vulnerability Findings**

ID	Title	Severity	Status
SEC-01	Imprecise arithmetic operations order	LOW	Acknowledge
SEC-02	Missing Zero Address Validation	LOW	Acknowledge
SEC-03	Missing Events Arithmetic	LOW	Acknowledge
SEC-04	Conformity to Solidity naming conventions	Informational	Acknowledge
SEC-05	Costly operations in a loop	Informational	Acknowledge



## SEC-01: Imprecise arithmetic operations order

Туре	Severity	Location	Status
Imprecise arithmetic operations order (divide-before-multiply)	LOW	Line: check on finding	Acknowledge

## Finding:

- Contract.\_tokenTransfer(address,address,uint256,bool) (BabyBitcoin.sol:1735-1929) performs a multiplication on the result of a division:
  - •tReflect = tAmount \* Fee Sell Reflection / 100 (BabyBitcoin.sol#1745)
  - rReflect = tReflect \* RFI (BabyBitcoin.sol#1774)
- Contract.\_tokenTransfer(address,address,uint256,bool) (BabyBitcoin.sol:1735-1929) performs a multiplication on the result of a division:
  - •tSwapFeeTotal = tAmount \* \_SwapFeeTotal\_Sell / 100 (BabyBitcoin.sol#1746)
  - •rSwapFeeTotal = tSwapFeeTotal \* RFI (BabyBitcoin.sol#1775)
- Contract.\_tokenTransfer(address,address,uint256,bool) (BabyBitcoin.sol:1735-1929) performs a multiplication on the result of a division:
  - •tTokens = tAmount \* Fee Sell Tokens / 100 (BabyBitcoin.sol#1744)
  - •rTokens = tTokens \* RFI (BabyBitcoin.sol#1773)

#### **Recommendation:**

Consider ordering multiplication before division.

Reference: <a href="https://github.com/crytic/slither/wiki/Detector-Documentation#divide-before-multiply">https://github.com/crytic/slither/wiki/Detector-Documentation#divide-before-multiply</a>

#### Alleviation:

BabyBitcoin has acknowledge this issue.





## SEC-02: Missing Zero Address Validation

Туре	Severity	Location	Status
Missing Zero Address Validation (missing-zero-check)	LOW	Line: check on finding	Acknowledge

## Finding:



Contract\_Contract\_SetUp\_04\_\_Set\_Wallets(address,address,address).Liquidity\_Collection\_Wall et (BabyBitcoin.sol:881) lacks a zero-check on :

- Wallet Liquidity = Liquidity Collection Wallet (BabyBitcoin.sol#897)
- Contract.constructor(string,string,uint256,uint256,address,address,uint256).\_DiscountCode (BabyBitcoin.sol:442) lacks a zero-check on :
  - Wallet TBG AFF = address( DiscountCode) (BabyBitcoin.sol#479)
- Contract.constructor(string,string,uint256,uint256,address,address,uint256).\_OwnerWallet (BabyBitcoin.sol:441) lacks a zero-check on :
  - owner = OwnerWallet (BabyBitcoin.sol#446)
  - Wallet BNB = address( OwnerWallet) (BabyBitcoin.sol#468)
  - Wallet Liquidity = OwnerWallet (BabyBitcoin.sol#469)
  - Wallet Tokens = OwnerWallet (BabyBitcoin.sol#470)

#### **Recommendation:**

Check that the address is not zero.

Reference: <a href="https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation">https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation</a>

#### **Alleviation:**

BabyBitcoin has acknowledge this issue.





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

Туре	Severity	Location	Status
Missing Events Arithmetic (events-maths)	LOW	Line: check on finding	Acknowledge

## **Finding:**

Contract.Launch\_Settings\_02\_\_Set\_Launch\_Limits(uint256,uint256,uint256) (BabyBitcoin.sol:1024-1036) should emit an event for:

- max\_Tran\_Launch = Launch\_Transaction\_Limit\_TOKENS \* 10 \*\* \_decimals
   (BabyBitcoin.sol#1032)
  - Launch\_Buy\_Delay = Launch\_Buy\_Delay\_Seconds (BabyBitcoin.sol#1033)
  - Launch Length = Launch\_Phase\_Length\_Minutes \* 60 (BabyBitcoin.sol#1034)
- Contract.Processing\_03\_\_Update\_Swap\_Trigger\_Count(uint256) (BabyBitcoin.sol:1255-1258) should emit an event for:
  - swapTrigger = Transaction\_Count + 1 (BabyBitcoin.sol#1257)

#### **Recommendation:**

Emit an event for critical parameter changes.

Reference: <a href="https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic">https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic</a>

#### Alleviation:

BabyBitcoin has acknowledge this issue.



## **SEC-04:** Conformity to Solidity naming conventions

Туре	Severity	Location	Status
Conformity to Solidity naming conventions (naming-convention)	Informational	Line: check on finding	Acknowledge

## Finding:

Constant Contract.Wallet\_Burn (BabyBitcoin.sol:616) is not in UPPER CASE WITH UNDERSCORES

X Event Contractset\_Contract\_Fee(uint256,uint256) (BabyBitcoin.sol:533) is not in CapWords

Event Contractupdated\_Buy\_fees(uint256,uint256,uint256,uint256,uint256,uint256) (BabyBitcoin.sol:528) is not in CapWords

Event Contractupdated\_Sell\_fees(uint256,uint256,uint256,uint256,uint256,uint256)
(BabyBitcoin.sol:529) is not in CapWords

Event Contractupdated\_Sell\_fees(uint256,uint256,uint256,uint256,uint256,uint256) (BabyBitcoin.sol:529) is not in CapWords

Event Contractupdated\_SwapAndLiquify\_Enabled(bool) (BabyBitcoin.sol:530) is not in CapWords

Function Contract.Contract\_Options\_01\_\_Deflationary\_Burn(bool) (BabyBitcoin.sol:681-683) is not in mixedCase

Function Contract.Contract\_SetUp\_03\_\_Wallet\_Limits(uint256,uint256) (BabyBitcoin.sol:839-855) is not in mixedCase

#### **Recommendation:**

Follow the Solidity [naming convention](https://solidity.readthedocs.io/en/v0.4.25/style-guide.html#naming-conventions).

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

#### **Alleviation:**

BabyBitcoin has acknowledge this issue.





# SEC-05: Costly operations in a loop

Туре	Severity	Location	Status
Costly operations in a loop (costly-loop)	Informational	Line: check on finding	Acknowledge

## Finding:

Contract.Rewards\_Include\_Wallet(address) (BabyBitcoin.sol:1315-1326) has costly operations inside a loop:

\_excluded.pop() (BabyBitcoin.sol#1322)

#### **Recommendation:**

Use a local variable to hold the loop computation result.

Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#costly-operations-

inside-a-loop

#### **Alleviation:**

BabyBitcoin has acknowledge this issue.



# **SWC Findings**

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	No risk
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







1			
SWC-113	DoS with Failed Call	Complete	No risk
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







		<del> </del>	
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
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



## Visibility, Mutability, Modifier function testing

```
Contract |
                  Type
                                  Bases
    -----:|:------:|:-
          | **Function Name** | **Visibility** | **Mutability** |
**Modifiers** |
1111111
 **IERC20** | Interface | |||
 L | totalSupply | External ! |
                            |N0 |
 L | balanceOf | External | | NO! |
 L | transfer | External 📘 | 🥮
                          |N0 |
 |N0 |
 L | approve | External | | 🛑 | NO! |
 👢 | transferFrom | External 👢 | 🥮 |NO 📜 |
 **SafeMath** | Library |
 └ | add | Internal 🔒 |
 L | sub | Internal 🗎 |
 L | mul | Internal 🗎 |
 └ | div | Internal 🗎 |
 L | sub | Internal 🔒 |
 └ | div | Internal 🔓 |
 **Context** | Implementation | |||
 └ | _msgSender | Internal 🛍 | | |
 **Address** | Library | |||
 👢 | sendValue | Internal 🛍 | 🥮 | |
 └ | functionCall | Internal 🛍 | 🥌
 └ | functionCall | Internal 🔒 | 🥮 | |
 L | functionCallWithValue | Internal ← |
 | functionStaticCall | Internal 🗎
```





```
| functionStaticCall | Internal 🔒 |
 👢 | functionDelegateCall | Internal 🛍 | 🥌
   | functionDelegateCall | Internal 🛍 | 🥌
  L | _verifyCallResult | Private 🛍 | | |
 **IUniswapV2Factory** | Interface | |||
 L | feeTo | External ! |
                            |N0 |
  L | feeToSetter | External | |
                                  |N0 | |
  L | getPair | External | |
                              |NO |
   | allPairs | External | | NO | |
  L | allPairsLength | External ! | NO! |
 L | createPair | External 📘 | 🥌
                                  |NO |
  📙 | setFeeTo | External 📒 | 🥌
                               |N0 |
  L | setFeeToSetter | External | | 🛑
                                      |N0 |
111111
 **IUniswapV2Pair** | Interface | |||
   | name | External | |
                           |N0 |
  L | symbol | External ! |
   | decimals | External ! |
  | balanceOf | External
                                |N0 |
  L | allowance | External
                                |N0 |
   | approve | External !
                                |N0 |
   | transfer | External | |
                                |N0 |
  L | transferFrom | External ! |
   | DOMAIN_SEPARATOR | External
  L | PERMIT_TYPEHASH | External
   | nonces | External ! |
                             |N0 |
  L | permit | External | | 🛑 | NO! |
   | MINIMUM_LIQUIDITY | External
                                        |N0 | |
  L | factory | External ! |
                              |N0 |
                             |N0 |
   | token0 | External | |
  L | token1 | External 📒 |
                             |N0 |
  L | getReserves | External ! |
                                  |N0 |
   | price0CumulativeLast | External
                                           |N0 |
  L | price1CumulativeLast | External
                                           |N0 !
   | kLast | External | | |NO! |
     burn | External ! |
```



```
swap | External
                          INO I
   | skim | External
                         INO !
   | sync | External 📒 | 🥌
                         |NO ! |
 💄 | initialize | External 🕴 | 🥮 |NO 📗 |
 **IUniswapV2Router01** | Interface | |||
   | factory | External ! |
   | WETH | External ! |
                        |NO |
   | addLiquidity | External 📘 | 🛑
   | addLiquidityETH | External | | 🔤 |NO!
   | removeLiquidity | External | | 🛑
   | removeLiquidityETH | External | | 🛑
   | removeLiquidityWithPermit | External |
   | removeLiquidityETHWithPermit | External
   | swapExactTokensForTokens | External
   | swapTokensForExactTokens | External
 L | swapExactETHForTokens | External
 L | swapTokensForExactETH | External
   | swapExactTokensForETH | External
 L | swapETHForExactTokens | External
   | quote | External | |
                         |NO | |
 L | getAmountOut | External | |
                               |NO | |
 L | getAmountIn | External ! |
                              |N0 |
 L | getAmountsOut | External | |
                                |NO |
 L | getAmountsIn | External ! |
                               |NO | |
111111
 **IUniswapV2Router02** | Interface | IUniswapV2Router01 |||
   | removeLiquidityETHSupportingFeeOnTransferTokens | External | | 🛑 | NO! |
 👢 | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External 👢 | 🔴
|NO |
 💄 | swapExactTokensForETHSupportingFeeOnTransferTokens | External 🕴 | 🥏
1111111
 **XXX** | Implementation | Context |||
 | <Receive Ether> | External | | 1 NO! |
    send_BNB | Internal 🛍 | 🥌
```



```
\square
 **Contract** | Implementation | Context, IERC20 |||
  | <Constructor> | Public | | 🛑 |NO! |
 L | Token_Information | External | |
                             |N0 |
  | Contract_Options_01__Deflationary_Burn | External | | 🛑 | onlyOwner |
  | Contract_Options_02_No_Fee_Wallet_Transfers | Public 📒 | 🥏 | onlyOwner |
  | Contract_SetUp_01__Fees_on_Buy | External 📘 | 🥮 | onlyOwner |
                                        | onlyOwner |
  | Contract_SetUp_02__Fees_on_Sell | External 📒 | 🥌
 L | Contract_SetUp_03__Wallet_Limits | External | | 🛑 | onlyOwner |
 L | Contract_SetUp_04__Set_Wallets | External | | •
                                       | onlyOwner |
 L | Contract_SetUp_05__Update_Socials | External [ | 🛑
  | Contract_SetUp_06__PreSale_Wallet | External |
                                          | onlyOwner |
 L | Launch_Settings_01__Blacklist_Bots | External | | 🛑
                                          | onlyOwner |
 | onlyOwner |
 | onlyOwner |
 | onlyOwner |
 L | Maintenance_04__Renounce_Ownership | Public | | 🔴 | onlyOwner |
  | Processing_01__Auto_Process | External | | 🔴
                                     | onlyOwner |
 | Processing_03__Update_Swap_Trigger_Count | External ! | 🛑 | onlyOwner |
  | onlyOwner |
                                           | onlyOwner |
  | Wallet_Settings_02__Exempt_From_Limits | External | |
 L | Wallet_Settings_03__Exclude_From_Fees | External ! | 👄 | onlyOwner |
  | owner | Public ! |
                   INO I
  | name | Public ! |
                   |N0 | |
  | symbol | Public |
                    INO !
 L | decimals | Public ! |
                     |N0 |
  | totalSupply | Public | |
                        |N0 |
 L | balanceOf | Public !
                      |N0
 L | allowance | Public !
                      |N0 !
                             |N0 |
  | increaseAllowance | Public | |
  | decreaseAllowance | Public 👢 | 🥌
                             |N0 |
                     approve | Public 📘 | 🥌
    _approve | Private 🔐
```



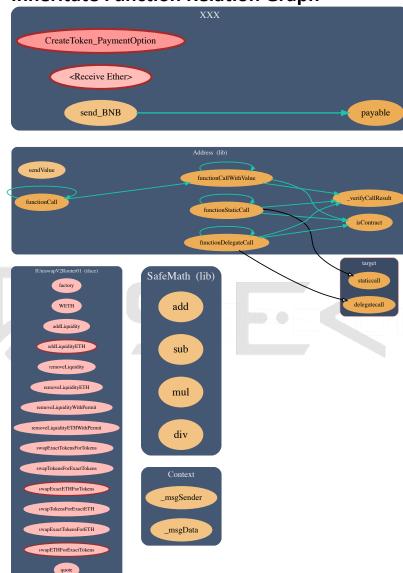


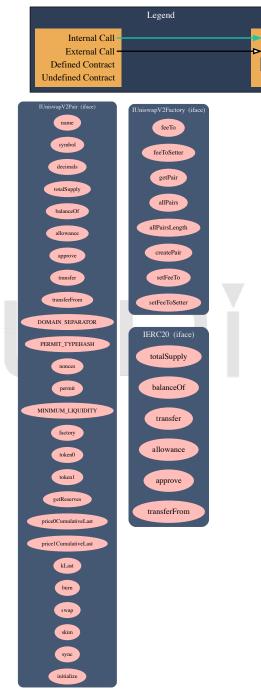
```
tokenFromReflection | Internal 🛍 | | |
  | _getRate | Private 🔐 | | | |
  | _getCurrentSupply | Private 🔐 |
  | transfer | Public | | 🛑 |NO! |
  | transferFrom | Public | | 🛑 |NO! |
  | send_BNB | Internal 🛍 |
  | _transfer | Private 🔐 | 🥌
  | swapAndLiquify | Private 😭 | 🥌
 L | swapTokensForBNB | Private 🔐 | 🥌
 L | addLiquidity | Private 🛍 | 🥌 | |
 L | _tokenTransfer | Private 🔐 | 🥌
 L | <Receive Ether> | External | | 💹 |NO! |
Legend
 Symbol
         | Meaning
         | Function can modify state |
         | Function is payable |
```





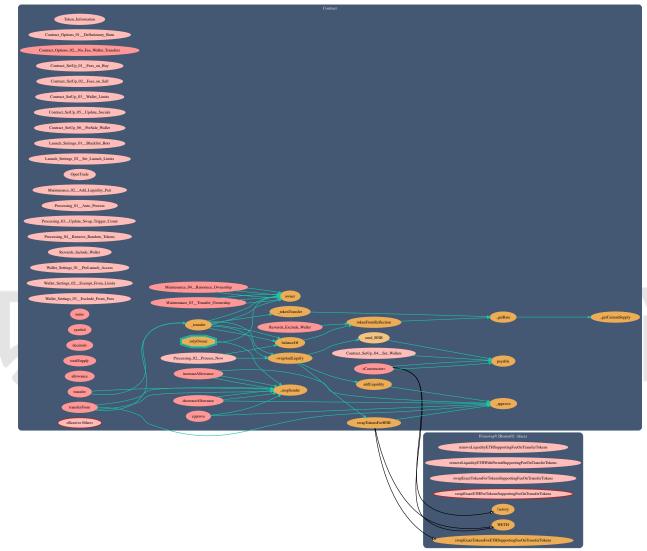
## **Inheritate Function Relation Graph**













## **About Securi**

SECURI LAB is a group of cyber security experts providing cyber security consulting, smart contract security audits, and KYC services.



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