AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

Kong Inu

DATED : 17 APRIL 23'

AUDIT SUMMARY

Project name – Kong Inu

Date:17 April, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: Passed

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	2	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

USED TOOLS

Tools:

1- Manual Review:
a line by line code review has been performed by audit ace team.

2- BSC Testnet network:
All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither : The code has undergone static analysis using Slither.

Testnet Link: Contract has been tested on binance smart chain testnet which can be found in below link:
https://testnet.bscscan.com/address/0x3E52AEb78 7C10f9b275E2B361fEEe79b6bF5DceF#code

Token Information

Token Name : Kong Inu

Token Symbol: KONG

Decimals: 9

Token Supply: 210,000,000,000,000,000

Token Address:
0xAC1Cd89092e04c87f13D6f80fb9A9a506468678e

Checksum:
7b0d6058387825c26af841b8913f24278a52984c

Owner:
0xC344EA9B5ada0E9489626b5Da271d5f6E8103B7f
(at time of audit)

TOKEN OVERVIEW

Fees:

Buy Fees: 10%

Sell Fees: 10%

Transfer Fees: 10%

Fees Privilege: None

Ownership: Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: Yes

Other Privileges: updating liquidity threshold - excluding from fees - including in fees - including in rewards - excluding from rewards

AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.

- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.

- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.

- Test coverage analysis determines whether the test cases are covering the code and how much code isexercised when we run the test cases.

- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.

- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

VULNERABILITY CHECKLIST

- ✅ Return values of low-level calls
- ✅ Private modifier
- ✅ Multiple Sends
- ✅ Using Suicide
- ✅ Gas Limitand Loops
- ✅ Address hardcoded
- ✅ Exception Disorder
- ✅ Using inline assembly
- ✅ Divide before multiply
- ✅ Missing Zero Address Validation
- ✅ Compiler version not fixed

- ✅ **Gasless Send**
- ✅ Using block.timestamp
- ✅ Re-entrancy
- ✅ Tautology or contradiction
- ✅ Timestamp Dependence
- ✅ Revert/require functions
- ✅ Use of tx.origin
- ✅ Integer overflow/underflow
- ✅ Dangerous strict equalities
- ✅ Using SHA3
- ✅ Using throw

CLASSIFICATION OF RISK

| Severity	Description
◆ **Critical**	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ **High-Risk**	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ **Medium-Risk**	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ **Low-Risk**	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ **Gas Optimization /Suggestion**	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
◆ **Critical**	0
◆ **High-Risk**	2
◆ **Medium-Risk**	0
◆ **Low-Risk**	0
◆ **Gas Optimization / Suggestions**	0

INHERITANCE TREE
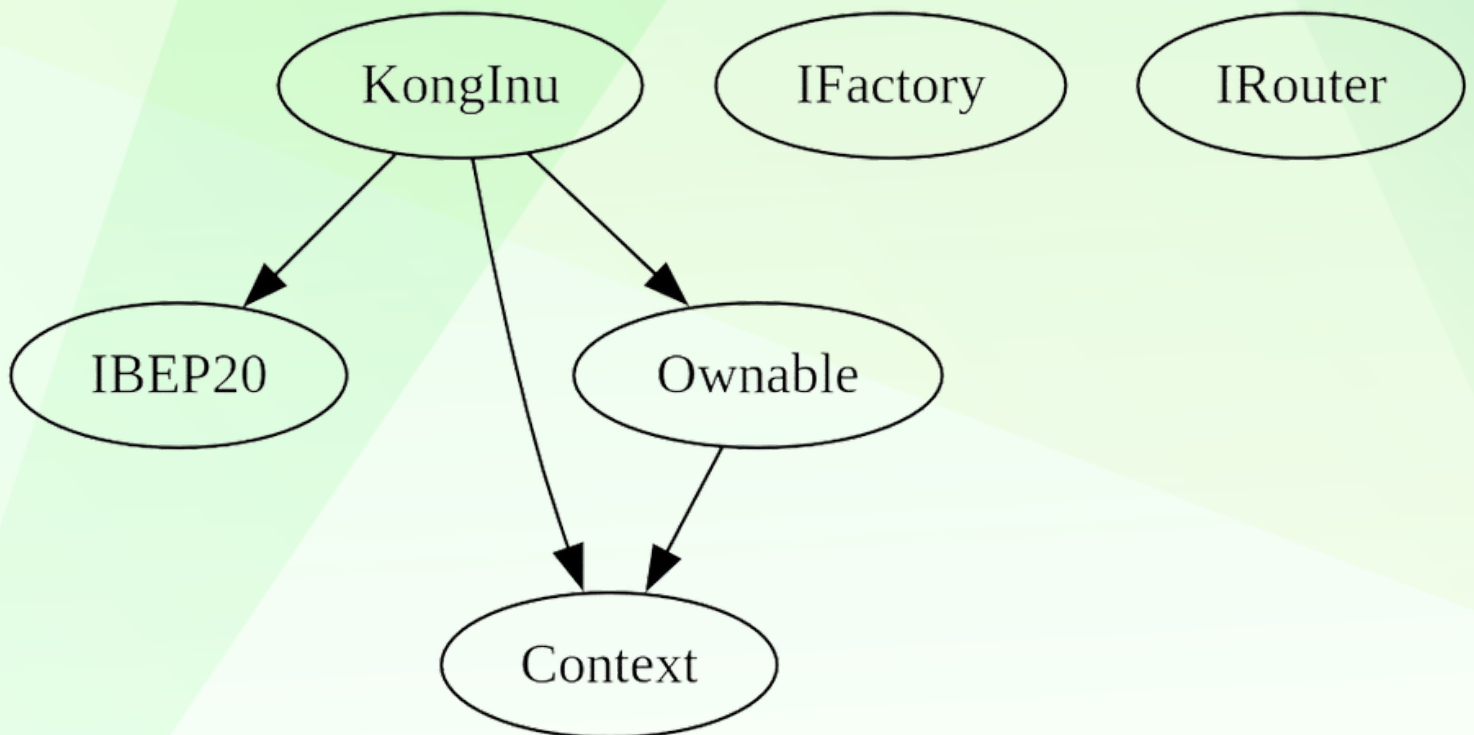
POINTS TO NOTE

- Owner is not able to modify buy/sell/transfer fees (10% each)
- **Owner must enable trading for investors to be able to trade**
- Owner is not able to set max buy/sell/transfer/hold amount
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner is not able to mint new tokens

CONTRACT ASSESMENT

Contract	Type	Bases			
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
IBEP20	Interface			
└	totalSupply	External ❗	|NO❗	
└	balanceOf	External ❗	|NO❗	
└	transfer	External ❗	🔴 |NO❗	
└	allowance	External ❗	|NO❗	
└	approve	External ❗	🔴 |NO❗	
└	transferFrom	External ❗	🔴 |NO❗	
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
Ownable	Implementation	Context		
└	<Constructor>	Public ❗	🔴 |NO❗	
└	owner	Public ❗	|NO❗	
└	renounceOwnership	Public ❗	🔴	onlyOwner
└	transferOwnership	Public ❗	🔴	onlyOwner
└	_setOwner	Private 🔒	🔴	
IFactory	Interface			
└	createPair	External ❗	🔴 |NO❗	
IRouter	Interface			
└	factory	External ❗	|NO❗	
└	WETH	External ❗	|NO❗	
└	addLiquidityETH	External ❗	💵 |NO❗	
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🔴 |NO❗	
Address	Library			
└	sendValue	Internal 🔒	🔴	
KongInu	Implementation	Context, IBEP20, Ownable		
└	<Constructor>	Public ❗	🔴 |NO❗	
└	name	Public ❗	|NO❗	
└	symbol	Public ❗	|NO❗	
└	decimals	Public ❗	|NO❗	
└	totalSupply	Public ❗	|NO❗	
└	balanceOf	Public ❗	|NO❗	
└	allowance	Public ❗	|NO❗	
└	approve	Public ❗	🔴 |NO❗	

CONTRACT ASSESMENT

└	transferFrom	Public ❗	🔴	NO ❗
└	increaseAllowance	Public ❗	🔴	NO ❗
└	decreaseAllowance	Public ❗	🔴	NO ❗
└	transfer	Public ❗	🔴	NO ❗
└	isExcludedFromReward	Public ❗		NO ❗
└	reflectionFromToken	Public ❗		NO ❗
└	EnableTrading	External ❗	🔴	onlyOwner
└	updatedeadline	External ❗	🔴	onlyOwner
└	tokenFromReflection	Public ❗		NO ❗
└	excludeFromReward	Public ❗	🔴	onlyOwner
└	includeInReward	External ❗	🔴	onlyOwner
└	excludeFromFee	Public ❗	🔴	onlyOwner
└	includeInFee	Public ❗	🔴	onlyOwner
└	isExcludedFromFee	Public ❗		NO ❗
└	_reflectRfi	Private 🔓	🔴	
└	_takeLiquidity	Private 🔓	🔴	
└	_takeMarketing	Private 🔓	🔴	
└	_takeOps	Private 🔓	🔴	
└	_takeDev	Private 🔓	🔴	
└	_getValues	Private 🔓		
└	_getTValues	Private 🔓		
└	_getRValues1	Private 🔓		
└	_getRValues2	Private 🔓		
└	_getRate	Private 🔓		
└	_getCurrentSupply	Private 🔓		
└	_approve	Private 🔓	🔴	
└	_transfer	Private 🔓	🔴	
└	_tokenTransfer	Private 🔓	🔴	
└	swapAndLiquify	Private 🔓	🔴	lockTheSwap
└	addLiquidity	Private 🔓	🔴	
└	swapTokensForBNB	Private 🔓	🔴	
└	bulkExcludeFee	External ❗	🔴	onlyOwner
└	updateMarketingWallet	External ❗	🔴	onlyOwner
└	updateDevWallet	External ❗	🔴	onlyOwner
└	updateOpsWallet	External ❗	🔴	onlyOwner
└	updateSwapTokensAtAmount	External ❗	🔴	onlyOwner
└	updateSwapEnabled	External ❗	🔴	onlyOwner
└	rescueBNB	External ❗	🔴	onlyOwner
└	rescueAnyBEP20Tokens	Public ❗	🔴	onlyOwner
└	<Receive Ether>	External ❗	💵	NO ❗

CONTRACT ASSESMENT

Legend

Symbol	Meaning
🔴	Function can modify state
💵	Function is payable

Token Distribution

It should be noted that the owner currently holds 100% of the total supply. However, information about the distribution of these tokens is not available, and it is recommended that investors exercise caution when considering this aspect.

STATIC ANALYSIS

```
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

KongInu.includeInReward(address) (contracts/Token.sol#406-417) has costly operations inside a loop:
        - _excluded.pop() (contracts/Token.sol#413)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#costly-operations-inside-a-loop

Context._msgData() (contracts/Token.sol#50-53) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

KongInu._rTotal (contracts/Token.sol#169) is set pre-construction with a non-constant function or state variable:
        - (MAX - (MAX % _tTotal))
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#function-initializing-state

Pragma version^0.8.17 (contracts/Token.sol#11) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in Address.sendValue(address,uint256) (contracts/Token.sol#130-141):
        - (success) = recipient.call{value: amount}() (contracts/Token.sol#136)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IRouter.WETH() (contracts/Token.sol#106) is not in mixedCase
Struct KongInu.valuesFromGetValues (contracts/Token.sol#206-220) is not in CapWords
Function KongInu.EnableTrading() (contracts/Token.sol#372-377) is not in mixedCase
Parameter KongInu.updatedeadline(uint256)._deadline (contracts/Token.sol#379) is not in mixedCase
Parameter KongInu.updateSwapEnabled(bool)._enabled (contracts/Token.sol#795) is not in mixedCase
Parameter KongInu.rescueAnyBEP20Tokens(address,address,uint256)._tokenAddr (contracts/Token.sol#807) is not in mixedCase
Parameter KongInu.rescueAnyBEP20Tokens(address,address,uint256)._to (contracts/Token.sol#808) is not in mixedCase
Parameter KongInu.rescueAnyBEP20Tokens(address,address,uint256)._amount (contracts/Token.sol#809) is not in mixedCase
Constant KongInu._decimals (contracts/Token.sol#165) is not in UPPER_CASE_WITH_UNDERSCORES
Variable KongInu.genesis_block (contracts/Token.sol#173) is not in mixedCase
Constant KongInu._name (contracts/Token.sol#181) is not in UPPER_CASE_WITH_UNDERSCORES
Constant KongInu._symbol (contracts/Token.sol#182) is not in UPPER_CASE_WITH_UNDERSCORES
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#51)" inContext (contracts/Token.sol#45-54)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

KongInu._lastSell (contracts/Token.sol#160) is never used in KongInu (contracts/Token.sol#144-819)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

KongInu._tTotal (contracts/Token.sol#168) should be constant
KongInu.deadWallet (contracts/Token.sol#176) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

KongInu.pair (contracts/Token.sol#163) should be immutable
KongInu.router (contracts/Token.sol#162) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

Result => A static analysis of contract's source code has been performed using slither,

No issues found

FUNCTIONAL TESTING

Router (PCS V2):
0xD99D1c33F9fC3444f8101754aBC46c52416550D1

1- Adding liquidity (passed):
https://testnet.bscscan.com/tx/0xe796ffa88e06cfb489e5438c2c
dd63a5849f37fac3df5af6dab906af5adee7be

2- Buying when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0xa57f2e06f169dbc968282d4a0c
4cff963f80d4d7b8e4129fbc283030c238f85a

3- Selling when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x530562a01d4302bee0c3d63baa
c9a8d2c1471260f3f21affb5d897328ea34501

4- Transferring when excluded from fees(0% tax) (passed):
https://testnet.bscscan.com/tx/0x8efbe2b7093e23aebe65070c88
185f3158f6f62f2488bb01159ecd280e6d17a6

5- Buying when not excluded from fees (10% tax) (passed):
https://testnet.bscscan.com/tx/0xb6c23ff15b98fc49951a7a60cf5
e0ce08529a0dd7de6d3026e82bb1b9a491e00

6- Selling when not excluded from fees (10% tax) (passed):
https://testnet.bscscan.com/tx/0x33b1bdd799b37188210cf453b3
0edc1428bb79d7e8b0bac1ec10b97baf492f7d

FUNCTIONAL TESTING

7- Transferring when not excluded from fees (10% tax) (passed):
https://testnet.bscscan.com/tx/0x07fa8f110f42be3a4a8566a2808
4962a03aef12145238a49737a99ef4c831b8d

8- Internal swap (passed):
All fee wallets received BNB
https://testnet.bscscan.com/address/0xe0a8b9318c60dcd3a533c
462a25ae2ab453fc302#internaltx

MANUAL TESTING

Centralization - Owner must enable trading

Severity: High

Function: EnableTrading

Lines: 372

Status: Not Resolved

Overview:

The owner must activate trading for investors to buy, sell, or transfer tokens. If trading remains disabled, token holders will be unable to trade their tokens.

```
function EnableTrading() external onlyOwner {
  require(!tradingEnabled, "Cannot re-enable trading");
  tradingEnabled = true;
  swapEnabled = true;
  genesis_block = block.number;
}
```

Recommendation:

to address this issue there are multiple options

- transfer ownership of contract to a trusted 3rd wallet (pinksale safu developer) to guarante enabling of trades

- Incorporate a safety mechanism that allows investors to activate trading if a specified duration has elapsed since the conclusion of the presale or consider alternative ways such as allowing trades ater investors claimed their presale tokens.

MANUAL TESTING

Logical - Setting swap threshold to 0

Severity: High

Function: updateSwapTokensAtAmount

Lines: 787

Status: Not Resolved

Overview:

setting swap threshold to 0 can disable sells if contract balance is more than threshold.

```
function updateSwapTokensAtAmount(uint256 amount) external onlyOwner {
    require(
        amount <= 42e14,
        "Cannot set swap threshold amount higher than 1% of tokens"
    );
    swapTokensAtAmount = amount * 10 ** _decimals;
}
```

Recommendation:

ensure that swap threshold can not be zero.

Example:

```
function updateSwapTokensAtAmount(uint256 amount) external onlyOwner {
    require(
        amount <= 42e14,
        "Cannot set swap threshold amount higher than 1% of tokens"
    );
    require(
        amount > 0,
"Cannot set swap threshold amount to 0"
    );
    swapTokensAtAmount = amount * 10 ** _decimals;
}
```

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