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AUDIT COMPANY

Smart Contract Security Audit

TechRate

January, 2022

Audit Details

Audited project

JeToken

Deployer address

0x7a394f2d92d387393bcfd902464077559e87aaa0

Client contacts:

JeToken team

Blockchain

Binance Smart Chain

Project website:

https://jetoken.org/

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 below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by JeToken to perform an audit of smart contracts:
https://bscscan.com/address/0x0f005dfe97c5041e538b7075915b2ee706677c26#code

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

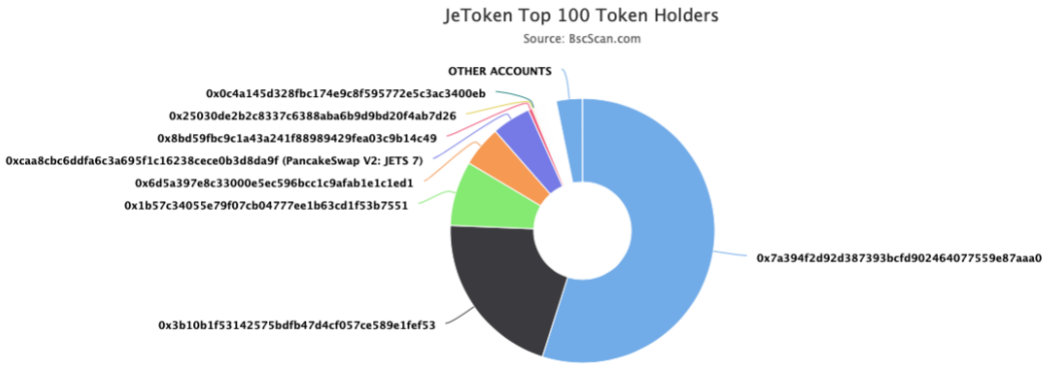
Token contract details for 15.01.2022

Contract name	JeToken
Contract address	0x0f005Dfe97c5041E538B7075915b2eE706677C26
Total supply	100,000,000,000
Token ticker	JETS
Decimals	9
Token holders	4,353
Transactions count	50,674
Top 100 holders dominance	96.81%
Liquidity fee	25
RFI fee	20
Operation/Marketing/Buyback fees	0/30/25
Uniswap V2 pair	0xcaa8cbc6ddfa6c3a695f1c16238cece0b3d8da9f
Contract deployer address	0x7a394f2d92d387393bcfd902464077559e87aaa0
Contract's current owner address	0x7a394f2d92d387393bcfd902464077559e87aaa0

JeToken Token Distribution

The top 100 holders collectively own 96.81% (96,808,156,653.98 Tokens) of JeToken

Token Total Supply: 100,000,000,000.00 Token | Total Token Holders: 4,353

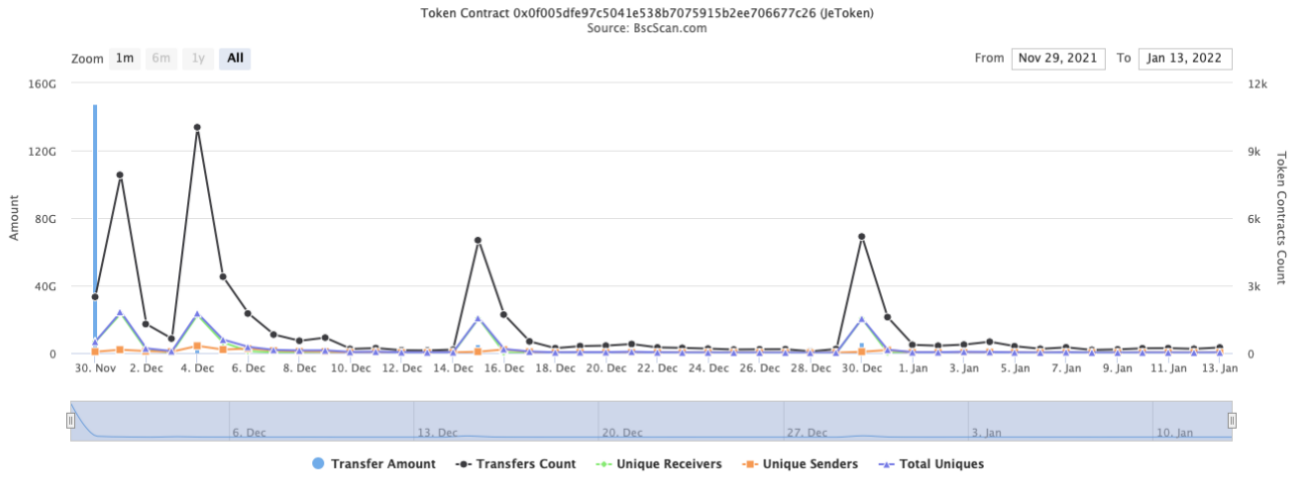


(A total of 96,808,156,653.98 tokens held by the top 100 accounts from the total supply of 100,000,000,000.00 token)

JeToken Contract Interaction Details

Time Series: Token Contract Overview

Tue 30, Nov 2021 - Thu 13, Jan 2022



JeToken Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x7a394f2d92d387393bcfd902464077559e87aaa0	54,924,763,552.654903827	54.9248%
2	0x3b10b1f53142575bdfb47d4cf057ce589e1fef53	20,711,238,395.322495083	20.7112%
3	0x1b57c34055e79f07cb04777ee1b63cd1f53b7551	7,919,132,416.238490367	7.9191%
4	0x6d5a397e8c33000e5ec596bcc1c9afab1e1c1ed1	5,000,000,000	5.0000%
5	PancakeSwap V2: JETS 7	4,749,533,171.102169974	4.7495%
6	0x8bd59fbc9c1a43a241f88989429fea03c9b14c49	470,530,486.111181965	0.4705%
7	0x25030de2b2c8337c6388aba6b9d9bd20f4ab7d26	163,011,923.631296056	0.1630%
8	0x0c4a145d328fbc174e9c8f595772e5c3ac3400eb	141,774,675.218297598	0.1418%
9	0x7b8c3c6b310b9dd7cfed139f6f4e3748a4ef197b	130,883,214.135901395	0.1309%
10	0xcfdbdbe2aabce5059d28bb924e3adc80ab3dcb1b	128,936,979.414005852	0.1289%

Contract functions details

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ [Lib] SafeMath
  - [Int] tryAdd
  - [Int] trySub
  - [Int] tryMul
  - [Int] tryDiv
  - [Int] tryMod
  - [Int] add
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] mod
  - [Int] sub
  - [Int] div
  - [Int] mod

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Int] functionStaticCall
  - [Int] functionStaticCall
  - [Int] functionDelegateCall #
  - [Int] functionDelegateCall #
  - [Prv] _verifyCallResult

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Prv] _setOwner #

+ [Int] IFactory
  - [Ext] createPair #

- [Ext] getPair

+ [Int] IRouter
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidityETH ($)
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens ($)
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

+ JeToken (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] isExcludedFromReward
  - [Pub] deliver #
  - [Pub] reflectionFromToken
  - [Ext] startTrading #
    - modifiers: onlyOwner
  - [Pub] tokenFromReflection
  - [Pub] excludeFromReward #
    - modifiers: onlyOwner
  - [Ext] includeInReward #
    - modifiers: onlyOwner
  - [Pub] excludeFromFee #
    - modifiers: onlyOwner
  - [Pub] includeInFee #
    - modifiers: onlyOwner
  - [Pub] isExcludedFromFee
  - [Ext] setMaxWalletPercent #
    - modifiers: onlyOwner
  - [Ext] setFeeRates #
    - modifiers: onlyOwner
  - [Ext] setSellFeeRates #
    - modifiers: onlyOwner
  - [Prv] _reflectRfi #
  - [Prv] _takeOperations #
  - [Prv] _takeBuyback #
  - [Prv] _takeLiquidity #
  - [Prv] _takeMarketing #
  - [Prv] _getValues
  - [Prv] _getTValues
  - [Prv] _getRValues
  - [Prv] _getRate
  - [Prv] _getCurrentSupply
  - [Prv] _approve #
  - [Prv] _transfer #

- [Prv] _tokenTransfer #
- [Prv] buyBackTokens #
  - modifiers: lockTheSwap
- [Prv] swapETHForTokens #
- [Prv] swapAndLiquify #
  - modifiers: lockTheSwap
- [Prv] addLiquidity #
- [Prv] swapTokensForBNB #
- [Ext] updateMarketingWallet #
  - modifiers: onlyOwner
- [Ext] updateOperationsWallet #
  - modifiers: onlyOwner
- [Ext] setMaxBuyAndSellAmount #
  - modifiers: onlyOwner
- [Ext] updateSwapTokensAtAmount #
  - modifiers: onlyOwner
- [Ext] updateSwapEnabled #
  - modifiers: onlyOwner
- [Ext] updateTradingEnabled #
  - modifiers: onlyOwner
- [Ext] updateBuybackEnabled #
  - modifiers: onlyOwner
- [Ext] setAntibot #
  - modifiers: onlyOwner
- [Ext] setBuybackUpperLimit #
  - modifiers: onlyOwner
- [Pub] isBot
- [Ext] rescueBNB #
  - modifiers: onlyOwner
- [Ext] rescueBEP20Tokens #
  - modifiers: onlyOwner
- [Ext] setRouterAddress #
  - modifiers: onlyOwner
- [Ext] <Fallback> ($)

($) = payable function
= non-constant function

Issues Checking Status

	Issue description	Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Low issues
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Low issues
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

1. Out of gas

Issue:

- The function includeInReward() uses the loop to find and remove addresses from the _excluded list. Function will be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

```
function includeInReward(address account⬆) external onlyOwner {
    require(_isExcluded[account⬆], "Account is not 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 function _getCurrentSupply also uses the loop for evaluating total supply. It also could be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

```
function _getCurrentSupply() private view returns (uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (
            _rOwned[_excluded[i]] > rSupply ||
            _tOwned[_excluded[i]] > tSupply
        ) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation:

Check that the excluded array length is not too big.

2. Buy/sell issue

Issue:

- The function _transfer() checks buy and sell max amounts with equal conditions.

```
if (
    from⬆ != owner() &&
    to⬆ != owner() &&
    to⬆ != address(0) &&
    to⬆ != address(0xdead) &&
    from⬆ == pair
) {
    require(amount⬆ <= maxBuyAmount, "you are exceeding maxBuyAmount");
    uint256 walletCurrentBalance = balanceOf(to⬆);
    require(
        walletCurrentBalance + amount⬆ <= _maxWalletSize,
        "Exceeds maximum wallet token amount"
    );
}

if (
    from⬆ != owner() &&
    to⬆ != owner() &&
    to⬆ != address(0) &&
    to⬆ != address(0xdead) &&
    from⬆ == pair
) {
    require(
        amount⬆ <= maxSellAmount,
        "Amount is exceeding maxSellAmount"
    );
}
```

Recommendation:

Check logic of this part of transfer function.

Owner privileges (In the period when the owner is not renounced)

- Owner can start trading.
- Owner can change fee rates.
- Owner can exclude from the fee.
- Owner can change _maxWalletSize value.
- Owner can change marketing and operations wallet address.
- Owner can change maxBuyAmount and maxSellAmount.
- Owner can change swapTokensAtAmount.
- Owner can enable/disable swapEnabled and buyBackEnabled.
- Owner can include in _isBot array.
- Owner can change buyBackUpperLimit.
- Owner can change router address.
- Owner can withdraw contract tokens and BNBs.

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope.

Liquidity locking details provided by the team:
https://www.pinksale.finance/#/pinklock/record/4321?chain=BSC

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.